

# MacWEEK

06.28.93 Volume 7 Number 26 THE NEWSWEEKLY FOR MACINTOSH MANAGERS

**Connectix CPU 2.0**  
Upgrade keeps PowerBook utility package on top

**Common Ground**  
DigitalPaper technology delivers documents regardless of app, fonts

**Contact Ease 2.0**  
Scripting puts contact manager ahead of the rest

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In Reviews

## Digital Ocean reels in AT&T as wireless partner

By April Streeter

Overland Park, Kan. — Tiny Mac developer Digital Ocean has snagged a big fish to help launch its line of wireless Mac network products.

Digital Ocean next week will announce an exclusive partnership with AT&T Co.

Through AT&T's NCR wireless LAN group, Digital Ocean will receive PCMCIA modem chip sets that will be incorporated in its forthcoming spread-spectrum radio connectors and hubs.

In exchange, AT&T will promote the products as its own Macintosh entry in the slow-growing but potentially large wireless LAN market. Currently, NCR's wireless LAN product, the WaveLAN, does not support the Macintosh.

"For both [AT&T and Digital Ocean], it's a necessary strategy to put together as many pieces of the jigsaw puzzle as they can," said Marty Palka, principal analyst at Dataquest Inc. of San Jose, Calif. "We're still conservative on the market, but certainly the Macintosh

See Digital Ocean, Page 138

## Industry leaders urge Apple, Spindler to lose fat, cut costs

By Jon Swartz and Leonard Heymann

San Francisco — As speculation about Apple's short-term problems and long-term direction continued to mount last week, Apple watchers said new CEO Michael H. Spindler must move quickly to trim and re-focus the sprawling empire created by his predecessor John Sculley.

Spindler is expected to act immediately to slash Apple's costs following the company's disclosure that



Spindler faces a host of challenges as Apple CEO.

earnings for the second half of the year will fall short of expectations. Company managers last week were drawing up lists of candidates for layoffs, and sources said the first pink slips were imminent.

Meanwhile, reports that executives are meeting with AT&T Co. about possible joint ventures or even an acquisition circulated widely in national media. Apple officials had

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## Apple putting 486 on '040 PDS card

*Houdini will let users switch with hot key*

By Henry Norr

Cupertino, Calif. — In a new move to reach out to the micro-computer mainstream, Apple is reportedly developing a low-cost coprocessor card that would let Quadra and Centris users switch between the Mac environment and DOS or Windows at the touch of a hot key.

Code-named Houdini, the board will include an Intel 486 processor and a VGA graphics chip, sources said. It will plug into the 68040 processor direct slot in the Centris and Quadra models and use the machines' existing RAM, SCSI devices and serial ports.

Apple had once hoped to announce the product this summer, but development delays made that impossible, sources said. The project is one of many now under scrutiny as the company moves to reduce overhead under the leadership of new CEO Michael H. Spindler. If it survives the review, however, the product could be released late this year or early in 1994.

Pricing has not been determined, but Apple is reportedly hoping to keep the cost at less than \$500 and perhaps as low as \$299. The clock

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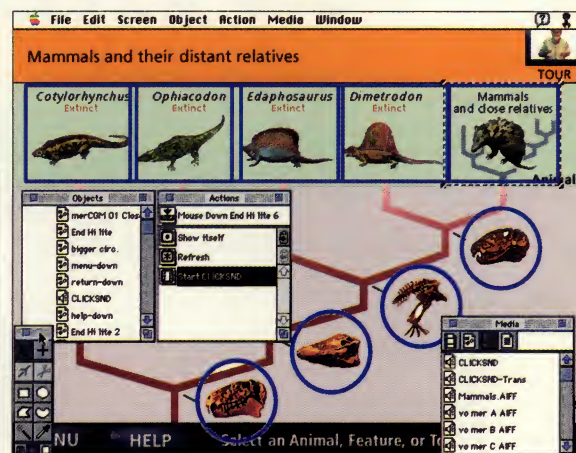
## New Excel, Word for Windows offer peek at Mac future

By Lisa Picarille

New York — Users of the Macintosh versions of Microsoft Word and Excel will get a glimpse of what's on tap in forthcoming upgrades when Microsoft Corp. CEO Bill Gates demonstrates the corresponding Windows upgrades in his keynote address at this week's PC Expo here.

Excel 5.0 and Word 6.0 for the Mac, both due by year-end, are likely to offer virtually the same features as their Windows counterparts. The new version of the spreadsheet program, like the current release, has the same core code on both platforms. With Word 6.0 — a complete rewrite of the program — Microsoft is adopting the same approach with Version 6.0 of its word processing package, which the company is rewriting completely.

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The Apple Media Tool lets users attach actions to objects to create self-running interactive presentations. This multimedia kiosk was created for the Museum of Natural History in New York using the new authoring program.

## Media Kit invades Digital World

By Neil McManus

Beverly Hills, Calif. — It carries a mundane name and a hefty price, but a new multimedia authoring program from Apple created a stir at last week's Digital World 93 conference here.

The Apple Media Tool, due in August for less than \$1,500, lets Mac users create self-running interactive multimedia applications without scripting.

The new program is also the centerpiece of the Apple Media Kit, which will add an object-oriented multimedia programming environment. The Media Kit, due in August for less than \$3,000, will let Mac users convert their titles to run on Windows. It will support Kaleida Labs Inc.'s ScriptX, an upcoming multi-

media authoring environment, allowing users to create cross-platform titles for PCs and consumer devices.

The Media Tool works with PICT graphics; QuickTime movies; TrueType and Type 1 fonts; and sound files in AIFF (Audio Interchange File Format), snd and Wave formats. Users assemble icon aliases of all media elements in a holding area, which looks like a Finder folder.

To create a custom title, users lay out elements on screens. When an element icon is dragged onto a screen, it expands to a full graphic, movie or sound. Double-clicking on an element launches a relevant editing application through Apple events. Users can customize the pro-

See Digital World, Page 139

## Newton takes halting steps toward market

By Kirsten L. Parkinson and Raines Cohen

Cupertino, Calif. — As developers scramble to determine how the Newton fits into their product strategies, Apple is taking two steps forward and one step back in getting the personal digital assistant to market.

Company officials last week insisted that Newton will be in the hands of consumers by late summer, and sources said an official rollout of the PDA is slated to take place by August's Macworld Expo in Boston.

At the Digital World 93 conference in Beverly Hills, Calif., Apple Chairman John Sculley announced that the Newton is "on track" and said the company will have a golden

See Newton, Page 138

**Mactivity '93**

What's in store at the annual Mac networking extravaganza

See stories, pages 4, 36

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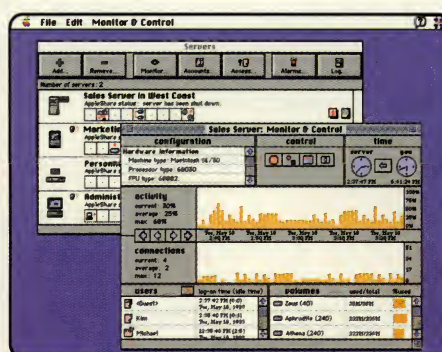
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# TECHWORKS





# PC Expo to bring Mac news about Amber, open standards

By Robert Hess

New York — While most of the attention at this week's PC Expo will be focused on Intel-standard developments, some important Mac-related announcements are expected.

► **Amber.** WordPerfect Corp. of Orem, Utah, is expected to announce that it will lead development of the Windows implementation of Amber, Apple's new compound-document architecture.

When Apple announced the open-standard alternative to Microsoft Corp.'s OLE (Object Linking and Embedding) 2.0 last month, Apple said it would seek a partner to implement the standard on Win-

dows. The partners, however, will apparently have to find a new moniker for the architecture; trademark problems have forced Apple to abandon the Amber name.

► **Cross-platform development.** Novell Inc. of Provo, Utah, reportedly will announce a new cross-platform development system to compete with Apple and Symantec Corp.'s Bedrock and Microsoft's Wings. Combining technology purchased recently from Serius Corp. and Software Transformation Inc., the new system may signal a broadening of Novell's focus from primarily network-oriented software toward cross-platform communications and development. □

## Insignia Solutions to offer MacDisk for PCs to easily access Mac floppies

By Henry Norr

Mountain View, Calif. — A PC utility due in August from Insignia Solutions Inc. could give "sneaker-net" a new lease on life as a cross-platform data-interchange protocol.

Called MacDisk, the \$99.95 program will give users of IBM PCs and compatibles full access to Mac floppy disks. It will make it possible to see, open, edit, create, save and delete files on 1.4-Mbyte Mac floppies from within any DOS or Windows application, the company said.

Several vendors offer software that lets PC users mount Mac floppies, but those packages require users to go to a special utility to transfer files between the Mac disk and the PC (see story, Page 85).

The Insignia package, which is to be announced at the August Macworld Expo in Boston, is a terminate and stay resident program that will require 57 Kbytes of standard memory on the PC, according to Insignia. The program will automatically translate Mac file names into DOS' eight-dot-three format, removing characters the PC can't handle.

A companion application, DOS and Windows versions of which will be included with the TSR, will let users see the full Mac names and format Mac floppies.

Insignia Solutions Inc. is at 1300 Charleston Road, Mountain View, Calif. 94043. Phone (415) 694-7600; fax (415) 964-5434. □

## AppleLink rates reduced for PB users

By Nathalie Welch

Cupertino, Calif. — As part of its plan to marry mobile-computer users to its on-line service, Apple last week announced AppleLink rates for PowerBook users. The rates cut more than 40 percent off the standard price.

The offer lets PowerBook users sign up for AppleLink for \$19.95 instead of the regular price of \$70. They then pay \$24.95 per daytime hour for 9,600-bps access instead of the regular charge of \$37 per hour. Under the offer, access at 2,400 bps costs \$14.95 per daytime hour with no kilobyte surcharge; ordinarily, 2,400-bps daytime access is \$12 per hour plus about 5 cents per kilobyte.

The offer is available to existing AppleLink subscribers, but they still must pay the \$19.95 registration fee.

Apple has said it plans to make its on-line services business a major revenue producer in coming years. As part of recent enhancements, the company added weather reports, travel services and a new Mobile Systems support area.

PowerBook users must provide serial and model number when ordering AppleLink. Customers can call (800) 877-8221 to order AppleLink software.

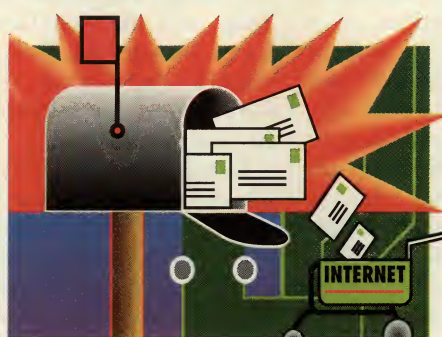
The offer is available only to U.S. customers. It expires Dec. 31; the lower rates will remain in effect indefinitely for users who sign up by then. □

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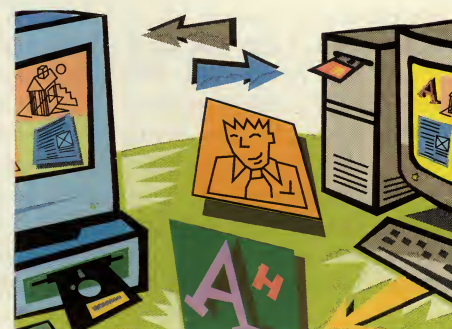
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# Networking from tunnels to NUTS

## NetWare rollout will highlight Mactivity

By April Streeter and Leonard Heymann

San Jose, Calif. — A spate of new products and key upgrades, including Novell Inc.'s NetWare 4.0 Macintosh client, should keep network managers busy at this week's Mactivity '93 here.

Provo, Utah-based Novell will unveil Version 4.0 of the software, which lets Mac users access NetWare 4.0's directory and distributed database services. The new Mac NLM (NetWare Loadable Module) is due next month.

Other products, such as a new line of AppleTalk routers from NetSpan Corp. of Richardson, Texas, expand the repertoire of LAN and wide-area network tools available to network managers.

► **Router roundup.** NetSpan will introduce a line of seven routers, including a four-port LocalTalk router and a two-port Ethernet version. The Multi-Router line is priced from \$1,495 to \$2,295.

International Transware Inc. of Mountain View, Calif., will introduce its new router, the \$899 TransTalk LT, which supports ISDN (Integrated Services Digital Network) and can support 128 Kbps of throughput.

The big three in Macintosh routing will announce their own upgrades: Farallon Computing Inc.

of Alameda, Calif., will demonstrate forthcoming support for the AppleTalk Update-based Routing Protocol and SNMP (Simple Network Management Protocol). Cayman Systems Inc. of Cambridge, Mass., and Shiva Corp. of Burlington, Mass., will show off new methods for AppleTalk tunneling (see story, Page 36).

Users concerned about AppleTalk routing in LANs and WANs can attend the inaugural meetings of the AppleTalk Network Forum, the group set up to be a watchdog over AppleTalk innovation.

► **IBM connectivity.** Andrew Corp. of Bothell, Wash., will unveil software that lets Macs use the same gateway as IBM PCs and compatibles to connect to IBM midrange systems. NetLynx/Mac, due in August, will let Macs tap into Andrew's existing NetLynx/5394 LAN-to-IBM gateway, which links PCs with IBM System/3x and AS/400 computers. Prices will range from \$200 for a single user to \$5,695 for 64 users.

► **Videoconferencing.** NUTS Technologies Inc. of San Jose, Calif., will ship its Connect 918 Desktop Videoconferencing System, which transmits full-motion, full-color video and 16-bit voice data. It also includes an eight-bit-color "whiteboard" window for real-time drawing. The system will cost \$4,250 for a LAN version, \$5,000 for a switched 56-Kbps model and \$5,850 for a version that can be used with ISDN lines.



### ► Network management.

Technology Works Inc. of Austin, Texas, will show off GraceLAN Server Manager 2.0, due in July, which lets network administrators add and remove users without shutting down AppleShare.

Management Science Associates Inc. of Pittsburgh will ship the first of three new products that separately offer the features formerly found in its Network SuperVisor (see MacWEEK, June 7). The LANscape mapping program will cost \$295. □

# Release of LC 520 for education heralds shift in Apple strategy

By Robert Hess

Cupertino, Calif. — With the release this week of the Macintosh LC 520, Apple is shifting the LC line away from the traditional retail channel. Just as the company wants the Performa name to be associated with home buyers, it is now tailoring the LC series for the education market, according to Carlos Montalvo, manager of Apple's entry-systems group.

The LC 520 is based on the LC III logic board, including a 25-MHz 68030 and an LC-style processor direct slot. But the all-in-one machine also includes a Sony Trinitron 14-inch color display, an Apple 300i CD-ROM drive, integrated phase-shift stereo speakers, a front headphone jack and a microphone embedded above the monitor.

In the United States, the LC 520 is available only to education buyers and only in a \$1,599 configuration with 5 Mbytes of RAM and an 80-Mbyte hard drive.

In Canada and Japan, 8/80/CD and 8/160/CD configurations will be available to retail consumers; pricing has not been set.

As Apple targets the LC line to educational markets, PowerBooks to mobile users and the Performa line to home buyers, it is now tailoring the LC series for the education market, according to Carlos Montalvo, manager of Apple's entry-systems group.

Recognizing that many "single-task professionals" will find the LC 520 a satisfactory alternative to the lowest-level Centris, Apple officials said they would not rule out the possibility of the LC 520 becoming part of the Performa line at a later time or even being pitched to two markets, much like the IIfx.

Apple said it rolled out the LC 520 this month to make the new Mac available to educators planning purchases for the upcoming school year and to give a new option to Japanese buyers, who traditionally receive bonuses during the summer. □

# Apple's Portable StyleWriter hits the road

By Matthew Rothenberg

Cupertino, Calif. — Apple this week weighed in with its first portable printer.

The Apple Portable StyleWriter, available now for \$439, measures 1.9 by 12.2 by 8.7 inches and weighs 4.5 pounds without a power supply. It ships with a rechargeable nickel-cadmium battery, battery recharger and AC adapter, and it can output about 30 pages on a single battery charge.

The inkjet printer is QuickDraw-based and comes with 39 TrueType fonts. It outputs up to 1.5 pages per minute at a resolution of 360 dpi to letter-, legal- or tabloid-size paper, transparencies, envelopes and labels. The device includes a manual paper feeder; users can buy a 50-sheet automatic feeder for \$69.95.

The Portable StyleWriter is based on the 360-dpi BJ-10ex engine from Canon U.S.A. Inc. of Lake Success, N.Y. Canon markets the printer for users of Intel-based machines. Apple used this engine in its original StyleWriter inkjet but included a newer version in the recently introduced StyleWriter II.

The new model connects to the Mac via a bundled parallel-to-serial converter cable and custom driver reportedly developed by GDT Softworks Inc. of Burnaby, British Columbia.

C.J. Miser, analyst with BIS Strategic Decisions Inc. of Norwell, Mass., said purchasing a Portable StyleWriter is "just like you bought



The Apple Portable StyleWriter, 4.5 pounds without batteries, can output about 30 pages on one battery charge.

the Canon inkjet and the GDT software." Miser said that basing the new printer on the older Canon engine limits its output quality. "The quality of the StyleWriter [II] will be better, Miser said, "but you can't go on the road with it. There must not have been too much of a pent-up demand, or [Apple] would have done a more seamless job." □

# Sony Electronics rolls out 8mm Vdeck

By Carolyn Said

San Jose, Calif. — Sony Electronics Inc. this week will roll out the Vdeck 500, an 8mm frame-accurate videocassette recorder that connects to the Mac's serial port.

The Vdeck 500 is slated to be unveiled at PC Expo this week in New York and to ship in September for \$1,099. The drive can be controlled by software, such as Adobe Premiere, that supports Sony's platform-independent VISCA (Video System Control Architecture) protocol.

The device reads and writes RC Time Code, Sony's standard for consumer devices, giving it frame-accurate search capabilities. It can also dub RC Time Code to any previously recorded videotape.

The Vdeck 500 records in 8mm format and plays back Hi-8-format tapes at 8mm resolution of 250 lines. Hi-8 offers 400-line resolution.

The new deck features inputs for other video and audio devices, plus Control L (in) and Control S (out) jacks for communication with other devices in a VISCA daisychain network. VISCA allows computer control of up to seven video devices simultaneously. Other features include index mark and search.

The Vdeck 500 has a few features that best Sony's CVD-1000 Hi8 Vdeck drive, which shipped in January for \$2,295. The 8mm Vdeck has a jog shuttle and an LCD timecode display on its front for stand-alone operation; it also offers voice boost for enhancing voices and eliminating background noise.

But unlike the CVD-1000 the Vdeck 500 does not have PCM (Pulse Code Modulation) digital audio.

Sony's Computer Peripherals Products Co. is at 3300 Zanker Road, San Jose, Calif. 95134. Phone (800) 352-7669. □

# FileMaker Pro upgrade to support peer-to-peer file sharing

By Lisa Picarille

Santa Clara, Calif. — Claris Corp. is readying an upgrade of FileMaker Pro that supports Novell Inc.'s MacIPX for peer-to-peer file sharing among Mac and Windows users on a NetWare network.

Both Mac and Windows versions of FileMaker Pro 2.1 are due for release in August, still priced at \$399.

Users of the previous Windows and Mac releases could share files as

peers but only over an AppleTalk network and only if the Windows user had Farallon Computing Inc.'s PhoneNET PC software installed.

MacIPX support is the only major new feature in the Mac update. Version 2.1 for Windows adds support for the NetBIOS application programming interface, which enables FileMaker Pro Windows users to connect to one another via a variety of network operating

systems. It also adds support for QuickTime for Windows and Microsoft Corp.'s Dynamic Data Exchange protocol.

Upgrades to Version 2.1 are \$20. Users of competing database products can buy FileMaker Pro 2.1 for \$99.

Claris Corp. is at 5201 Patrick Henry Drive, Box 58168, Santa Clara, Calif. 95052-8168. Phone (408) 727-8227. □

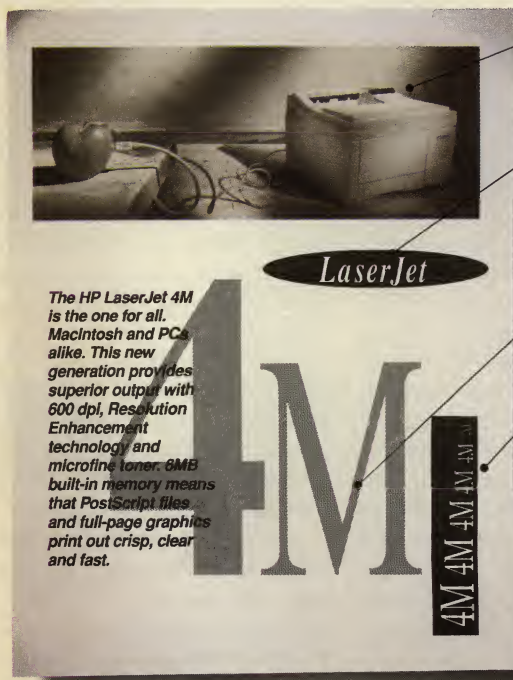


# Looks like Mac users just got their very own HP LaserJet.



## The new generation HP LaserJet 4M printer.

At last. An HP laser printer built specifically for the Mac—the new LaserJet 4M. A laser printer with everything Mac users need. From built-in PostScript™ Level 2 software from Adobe™ to standard LocalTalk and optional EtherTalk.



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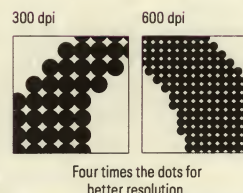
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# Evolution of a spreadsheet: Excel strives to remain on top

By Lisa Picarille

Among all the changes in the Mac applications software market since 1985, one thing has remained constant: Microsoft Excel is the undisputed king of the Mac spreadsheet hill, just as it has been since it was introduced in 1985.

## News Analysis

The program, now at Version 4.0, commands a 70 percent share of the Mac spreadsheet market. No competitor has managed to carve out more than a small slice of the Mac spreadsheet pie (see chart and story, right).

### The integrated challenge

But Excel does face increasing competition, not so much from other dedicated spreadsheets as from the new and enhanced integrated software packages that Claris Corp., WordPerfect Corp., Symantec Corp. and Microsoft Corp. itself have released in recent years.

Sales of these all-in-one "Works" products, which combine word processing, spreadsheet, database, graphics and communications functions, have risen dramatically, while spreadsheet sales have stalled (see chart).

The trend reflects several factors. The high-volume, lower-price strat-

egy Apple has pursued since 1990 has brought in an increasing number of novice, home and small-business users, and many of these customers choose a single inexpensive integrated package — or settle for the one they find bundled with their new Mac — rather than investing in a series of relatively costly separate applications.

Strong sales of PowerBooks have also fueled the integrated boom: Even corporate users who have Excel on their desktop machines may prefer a Works package on their mobile system, where disk space and memory are usually more limited.

Finally, of course, the new crop of integrated programs offers far more power, flexibility and integration than the Works offerings of the 1980s, which many users considered too limited for business use.

"Integrated packages are a much more viable alternative to spreadsheets than five years ago," said Mary Conti Loffredo, an analyst with International Data Corp., a market research company in Framingham, Mass.

Partly in response to competition from the integrated programs, Microsoft is putting increased emphasis on Microsoft Office, a package that includes Excel, PowerPoint, Word and Mail at a sharp discount over the combined price of the programs purchased separately. Company officials said that about 43 percent of all copies of Excel, for Mac and Windows, are now sold as part of Office.

### Upgrade hesitation

Microsoft's comfortable lead in the Mac spreadsheet market has not, at

least in recent years, lulled it into slowing the pace of upgrades. Excel 4.0 appeared last May, only a year after the 3.0 release, and Version 5.0 is expected by the end of this year (see story, Page 1). But the company faces some inertia in its own installed base.

"Excel 4.0's biggest competition is Excel 3.0, and the second biggest [competitor] is Version 2.2," said Bill Johnson, product manager for Excel for the Macintosh at Redmond, Wash.-based Microsoft.

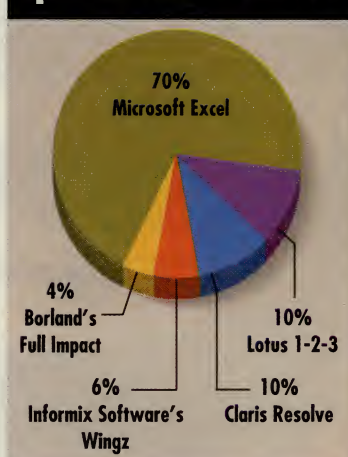
Cliff Becker, K-12 senior education specialist at Custom Computer of Hicksville, N.Y., is one user who has so far resisted Microsoft's efforts to get him to upgrade from Excel 3.0. "Excel 4.0 eats up a lot of memory," Becker said. "I have a product that does what I want it to do, so I don't want to change. It's just not worth it."

### Developers' dilemma

The shift toward integrated packages and the reluctance of some Excel users to upgrade reflect a larger issue facing all application developers: how to meet the needs of higher-end users without overwhelming novice and mainstream customers.

"Excel is loaded with bells and whistles and every tool on the planet," said Gary Huvard, a consultant

## Spreadsheet market



Source: International Data Corp.

for Huvard Research Consulting Inc. of Richmond, Va. "Ninety-nine percent of Excel users only use 10 percent of what is in the product. To me that adds up to a great deal of complication."

Microsoft and other spreadsheet developers are trying to respond to such concerns, partly by putting new emphasis on usability — making it easier to perform routine tasks — and partly by making their products more modular so users are not burdened by functions they don't need.

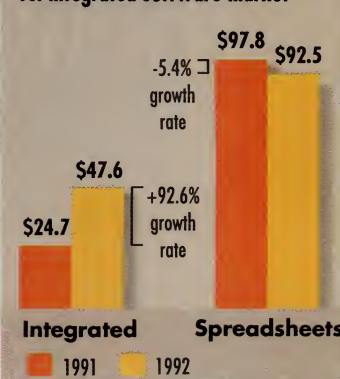
"We need to do a better job making the program adaptable to what the user does — make it easier to choose the components you want so users who don't want the DAL (Data Access Language) code or solver code don't have to load it," Johnson said.

For now, however, some corporate users feel caught in a cross-fire.

"We have many users with varying levels of needs who all use spreadsheets," said one Excel user at

## Market growth

Growth in Mac spreadsheet market vs. integrated software market



Source: Software Publishers Association.

a large East Coast accounting company, who asked not to be identified. "We have to implement a standard package, but often programs are not scalable enough and we end up spending a great deal of time training new users, while the power users in the group complain they need more functionality."

### Cross-platform compatibility

In addition to modularity, corporate users are searching for improved cross-platform compatibility.

"I want to know that if we have Windows and Mac users that sharing data and worksheets won't even be an issue on the end-user level," said a computer specialist for a large West Coast aerospace company.

Microsoft's Johnson agreed: "Mac users are not an island. File compatibility is No. 1 on what users want to see and certainly, at the very least, having the same feature set as Windows." □

## What users want

- ▶ Business analysis tools
- ▶ Modular programs
- ▶ Shared code between spreadsheets and word processors
- ▶ Improved cross-platform compatibility

## For the record

The June 21 issue incorrectly reported that Transparent Language Inc. had changed the price of its foreign-language training program, also named Transparent Language. The program remains \$139.

The June 14 issue misstated the throughput of the Hurdler SCSI External Quad Serial box from Creative Solutions Inc. Each of the device's four serial ports offers throughput of up to 57.6 Kbps; maximum total throughput for the board as a whole is 25 Kbytes per second, according to the company.

The June 14 issue listed an

incorrect phone number for purchasing WordPerfect Office 4.0. The correct numbers are (801) 225-5000 or (800) 321-4566.

The June 7 issue described IBM Corp.'s new 1.3-Gbyte magneto-optical drive as "not Mac-compatible." IBM said it is working with Software Architects Inc. of Bothell, Wash., to develop Mac drivers for the product. Software Architects said the drivers will be available as part of new versions of its Formatter 1 and Formatter-Five utilities that are expected to ship when IBM releases the drive.

## Is Microsoft the spreadsheet king by default?

The phenomenal success of Microsoft Excel for the Macintosh is based not so much on superior technology as on a lack of serious spreadsheet competition, according to industry watchers.

"Microsoft has succeeded because of the ineptitude of its competition," said Jeffrey Tarter, publisher of the Soft•letter, an industry newsletter published in Watertown, Mass.

Over the years Excel has faced challenges from numerous competitors, including Informix Software Inc.'s Wingz; Claris Corp.'s Wingz-derived Resolve; Bravo Technologies Inc.'s MacCalc; Full Impact, originally offered by the now-defunct Ashton-Tate Corp. and now owned by Borland International Inc.; and, most recently, Lotus Development Corp.'s 1-2-3.

But the Mac spreadsheet market has never seen the kind of fierce competition that now marks the

spreadsheet category on DOS and Windows, and none of Excel's competitors has managed to threaten its supremacy to the degree that Excel for Windows and Borland's Quattro Pro have undermined Lotus' overall lead on Intel platforms.

Indeed, of all the competitors Excel has faced on the Mac, only 1-2-3 is currently being promoted actively. Claris, although continuing to sell Resolve, has abandoned future development of the product, sources said. (Claris declined to comment.)

Even Lotus has had limited luck in the Mac market: Although the Mac version of 1-2-3 is widely considered, both inside and outside the company, to have the best spreadsheet interface Lotus has ever developed, the product's market share hovers around 10 percent, compared with Excel's 70 percent, according to International Data Corp., a market research

company in Framingham, Mass.

Apparently disappointed with these results, Lotus has reportedly scaled back Mac spreadsheet development and marketing to focus on the Windows market, where its latest release is gaining on Excel.

"Lotus doesn't even try [on the Mac]," Tarter said. "They should stop treating their Mac spreadsheet like the idiot child they keep in the attic."

Lotus disagrees, however. "We are committed to the Mac market, and we're developing another major release," said Yuko Takagi, product manager for 1-2-3 for the Mac at Cambridge, Mass.-based Lotus.

Informix, meanwhile, is preparing to revive Wingz for the Mac with the release of Version 2.0 later this year. Borland, however, has put earlier plans for a Mac version of Quattro Pro on hold, sources said. — By Lisa Picarille

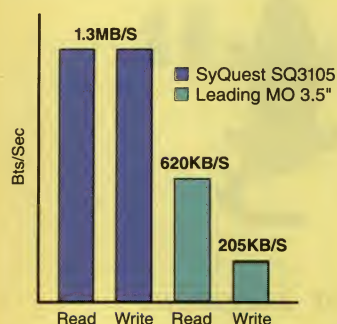




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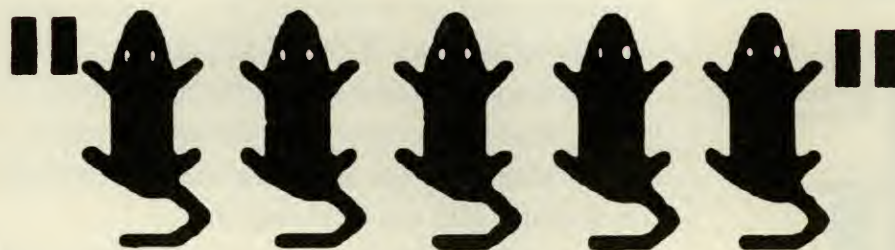
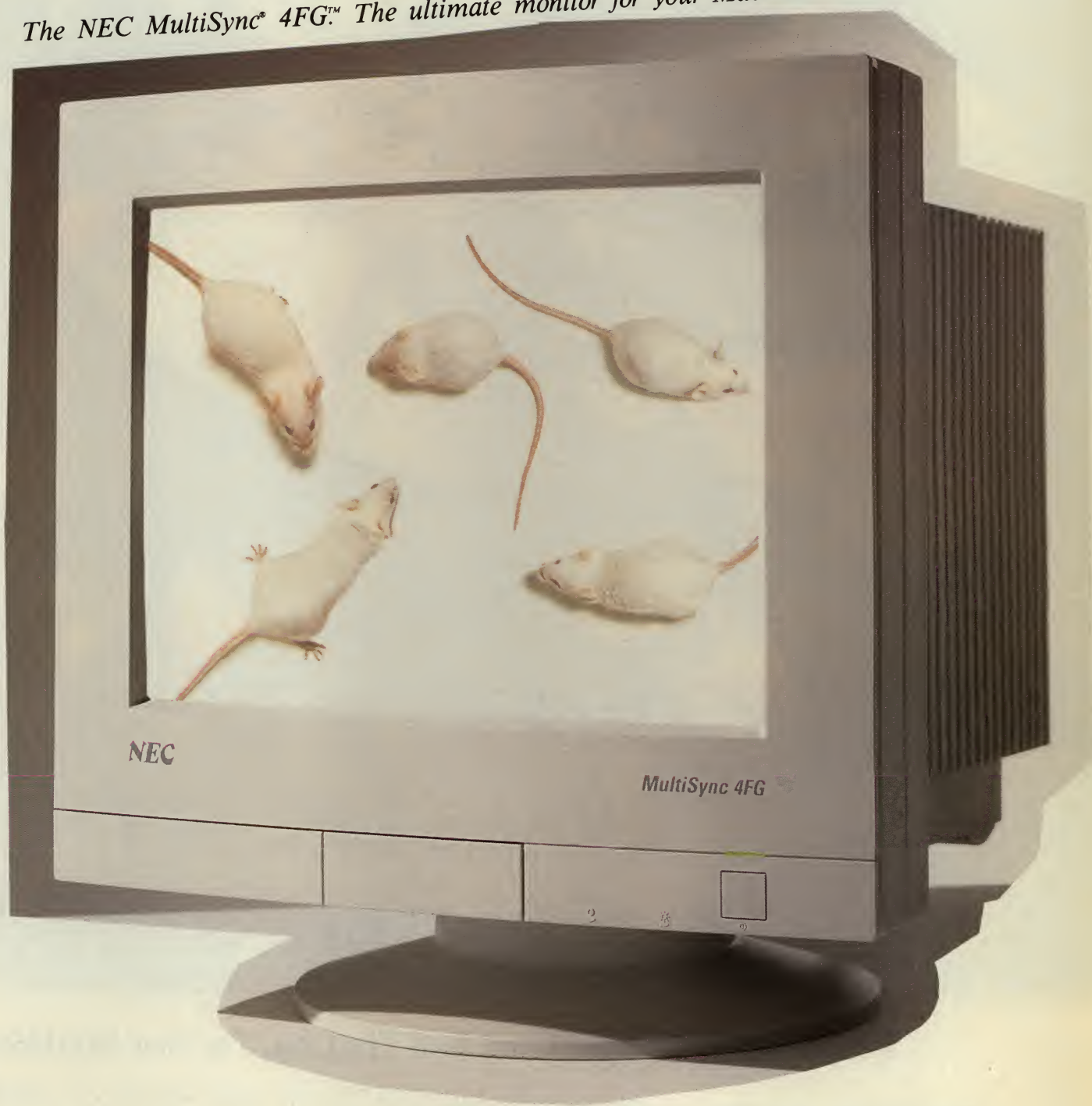




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*-MacUser Magazine  
Aug. '92*



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If, however, color control is not a priority for you, you'll be very happy with NEC's MultiSync 3FGx monitor, which shares almost all of the 4FG's award-winning features. Both monitors produce sharp, bright images, crisp graphics and vibrant colors. An Invar shadow mask provides increased brightness without loss of focus.

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\*For Macintosh 640 x 480 resolution, just attach NEC's FG/Mac cable adapter and plug into: Macintosh IIsx, IIfx, LC, LCII, IIfx, IIfx, Quadra™ 700, Quadra 900, Quadra 950, Performa™ 400, Performa 600, PowerBook™ 160, PowerBook 180, and the PowerBook 210 and PowerBook 230 with either the DuoDock™ or MiniDock™. Or with an add-in video card: Macintosh II, IIfx, IIfx, IIfx, PowerBook 140, PowerBook 145, and PowerBook 170. Get the 640 x 480 FG/Mac adapter free by calling NEC at (312) 622-7427 8:30AM-5PM CST.

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## FWB to show arrays for AWS 95

By Kirsten L. Parkinson

San Francisco — FWB Inc. this week will unveil a line of disk arrays designed to work with the Apple Workgroup Server 95.

The SledgeHammer A/UX models combine two-drive arrays with the company's Hard Disk ToolKit•Pro A/UX software for configuring

the system to run under A/UX 3.0.1, Apple's version of the Unix operating system.

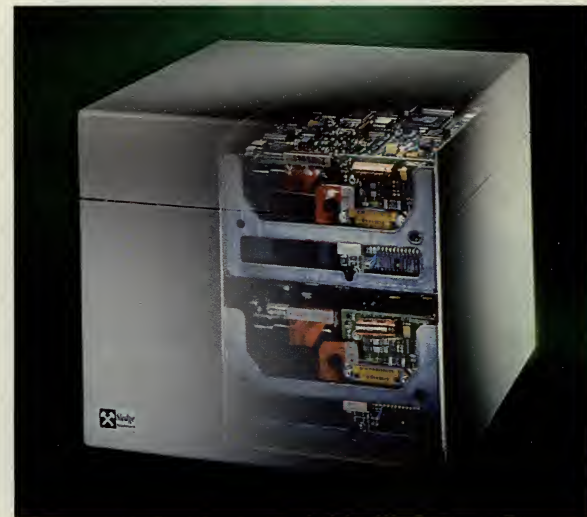
The software, which replaces Apple's built-in driver, provides RAID (redundant array of inexpensive disks) levels 0 and 1 capabilities. Level 0 stripes data across the two drives, improving performance, while Level 1 mir-

rors information to produce a duplicate copy of data.

When two arrays are connected to the four SCSI ports available on the AWS 95, the striped SledgeHammer A/UX systems can reach seek times as low as 2.4 milliseconds and transfer rates of up to 20 Mbytes per second, according to FWB.

The arrays will ship in July with total capacities ranging from 1 Gbyte to 5.6 Gbytes. External versions will be available for all capacities, while internal configurations for the AWS 95 will be available in 1-Gbyte, 2-Gbyte and 3.2-Gbyte capacities.

Prices will range from \$3,264 to \$11,825. For example, the 2-Gbyte external model will list for \$4,244, while the 3.2-Gbyte internal system will be \$5,084. The Hard Disk ToolKit•Pro A/UX software will also be available separately for



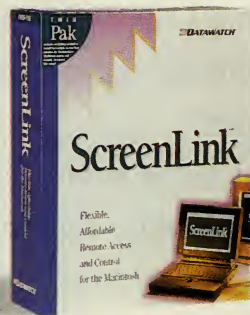
FWB's SledgeHammer A/UX arrays run under A/UX 3.0.1 and are designed to work with the Apple Workgroup Server 95.

\$995, allowing users to configure existing drives to run under A/UX.

FWB Inc. is at 2040 Polk St., Suite 215, San Francisco, Calif. 94109. Phone (415) 474-8055; fax (415) 775-2125. □

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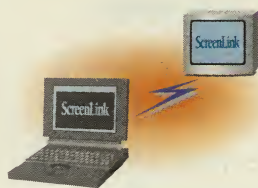
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## Xante adapter speeds Accel-a-Writer by 20%

By Matthew Rothenberg

Mobile, Ala. — Xante Corp.'s Accel-a-Writer 8100 laser printer will soon become better-connected, thanks to a new EtherTalk adapter slated to ship next month.

The external adapter, priced at \$495, has a 16-MHz 68000 processor and a 512-Kbyte RAM buffer. According to Xante, devoting a separate CPU to network traffic frees the printer's 16-MHz AMD 29000 RISC chip for the task of rasterizing PostScript code, speeding performance by 10 percent to 20 percent.

The Accel-a-Writer 8100, which starts at \$3,995, is based on Canon U.S.A. Inc.'s 8-page-per-minute LBP-BX engine and prints tabloid-size pages at a true resolution of 600 by 600 dpi.

The printer ships with the Level 1 version of PhoenixPage, the PostScript interpreter from Phoenix Technologies Ltd. of Norwell, Mass. Xante said it will switch to Phoenix's Level 2 emulation by the end of the summer, however, and existing owners will be able to

upgrade free. The printer comes with 35 Type 1 fonts and switches automatically between PostScript and PCL 4 emulations.

Users can purchase 512 Kbytes of flash memory for \$100, or 1 Mbyte for \$200. The optional flash memory can hold as many as 15 or 30 additional fonts, respectively.

The Accel-a-Writer 8100 will come with 12 Mbytes of RAM, expandable to 64 Mbytes; a SCSI port for a hard disk; a 250-sheet input cassette; and simultaneously active LocalTalk, Centronics parallel and RS-232 serial interfaces.

Users can purchase a firmware-interpolation option that increases the printer's apparent resolution. An 800-by-800-dpi version with 20 Mbytes of RAM costs \$4,595, a 960-by-960-dpi configuration with 32 Mbytes of RAM is \$5,495, and a 1,200-by-1,200-dpi model with 48 Mbytes of RAM is \$6,695.

Xante Corp. is at 2559 Emogene St., Mobile, Ala. 36606. Phone (205) 476-8189; fax (205) 476-9421. □

## DGR adapters display Macs in 16-bit color

By Nathalie Welch

Austin, Texas — DGR Technologies Inc. last week announced a line of display adapters that lets users of Macintosh LC and LC II machines, Performas, and selected PowerBooks view their screens in 16-bit color.

► **ColorBlaster LC.** Due this week for \$249, the device fits into the video SIMM slot of the Mac LC and LC II, as well as the Performa 400, 405 or 430, leaving the processor direct slot free.

The adapter supports 16-bit color on a 12-inch monitor at a resolution of 512 by 384 pixels or on 13- and 14-inch monitors at a resolution of 640 by 480 pixels.

A screen-doubling feature lets users zoom the upper left-hand corner of the screen to twice its normal size, but at 35 dpi. QuickTime

movies or video teleconferencing screens can be viewed at the large size with no loss of speed.

DGR said it will bundle a color paint program with the device.

► **ColorBlaster PB.** Due in mid-July for \$999, the ColorBlaster PB lets users of the PowerBook 140, 145 and 170 display in 16-bit color on 12-, 13- or 16-inch monitors or in eight-bit color or gray scale on 15-, 19- and 21-inch monitors.

The adapter, which plugs into the PowerBook's memory expansion slot, also includes 6 Mbytes of system memory. It comes with software to allow the simultaneous use of both the PowerBook screen and the external monitor.

DGR Technologies Inc. is at 1219 W. Sixth St., Austin, Texas 78703. Phone (512) 476-9855; fax (512) 476-6399. □



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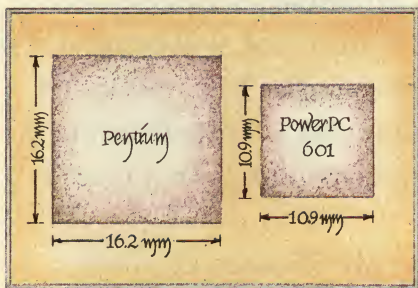
The PowerPC family of microprocessors will bring unprecedented high performance to everything from hand-held computers to desktop computers to supercomputers. It will run circles around its only real competitor, the Intel®







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Pentium™ microprocessor, and it will do so at a fraction of the cost. It will run today's standard computer operating systems, as well as those that are being developed for pen-based and object-oriented computing. In fact, PowerPC Microprocessors will play a pivotal role in the imminent convergence of computing, communications and lifestyle products.

Yes, the PowerPC Microprocessors from Motorola have the power to change the course of computing.

**PowerPC Microprocessors.** *Changing the course of computing. For the better.*





# It has the power to blow away Pentium.

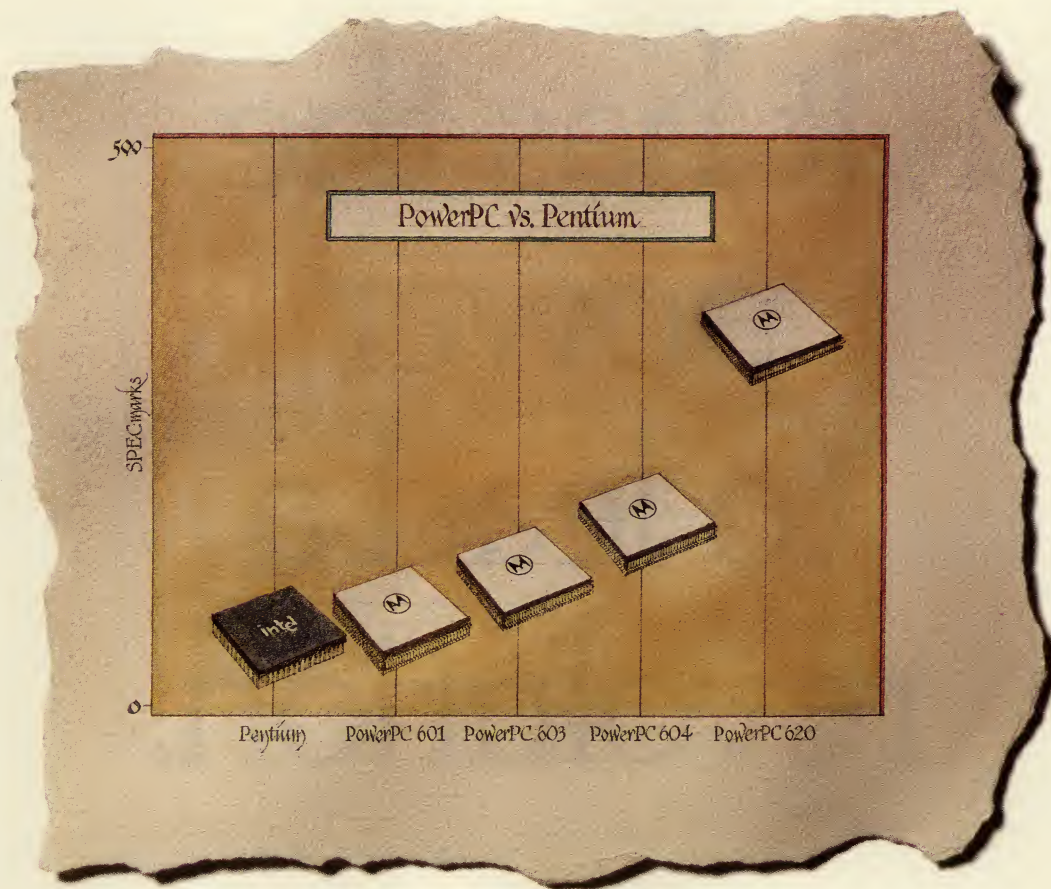
**The latest in the line** of X86-compatible microprocessors from Intel, Pentium, is quite powerful. However, it is not nearly as powerful as the PowerPC family of microprocessors from Motorola.

The first of Motorola's PowerPC Microprocessors, the PowerPC 601™ Microprocessor, will bring workstation-like performance to low-cost PCs. Its integer performance (how fast it handles basic computer functions) is equal to Pentium's. In floating-point performance (the speed you need to crunch numbers, run graphics, video, voice and the like), the 601 is a full 40 percent faster than Pentium, with no loss in integer performance.

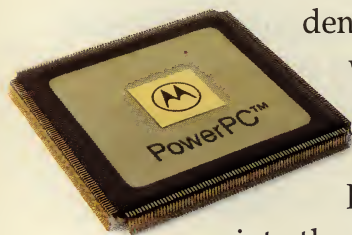
While the 601 outruns Pentium, it actually runs cooler, because it draws only 8.5 watts of power to 16 watts for Pentium.







The 601, of course, is only the beginning. Over the next eighteen months, we'll ship ever more powerful versions of the PowerPC Microprocessor. The low-wattage PowerPC 603™ Microprocessor will bring unprecedented performance to battery-powered computers. The PowerPC 604™ Microprocessor will push high-end PC and server performance to new highs. The PowerPC 620™ Microprocessor will run at 200 to 400 SPECmarks in high-end workstation, server and supercomputer applications.



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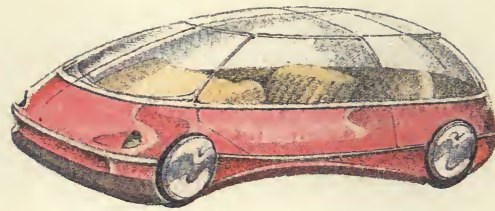




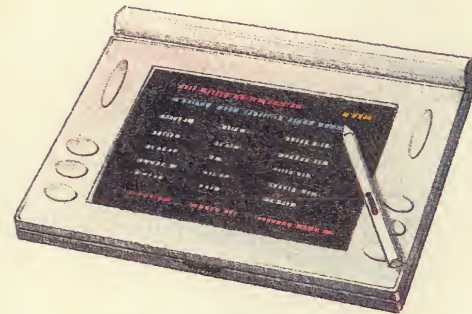


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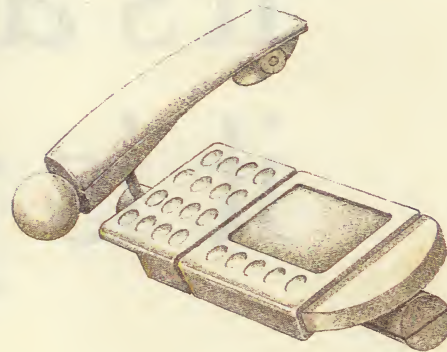
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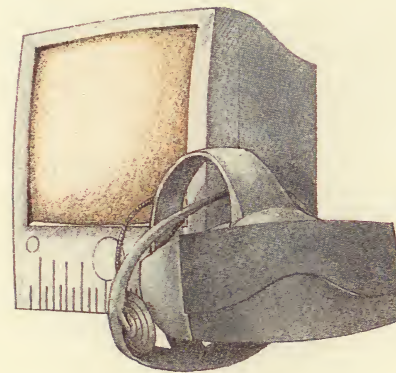
The 603 is a low-wattage  
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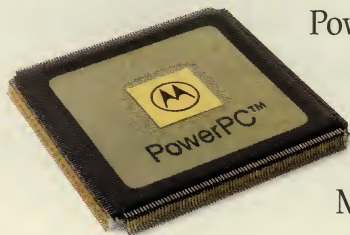
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Perhaps most importantly, PowerPC Microprocessors soon will run the new processor independent operating systems, including the one forthcoming from Taligent (the Apple/IBM joint venture); as well as the real-time operating systems for embedded control and those emerging for mobile, pen-based computing.

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\*Price comparison is based upon the announced Intel price for a 1,000 piece quantity of the 66MHz Pentium and the estimated price of the 66MHz MPC601 for the same quantity. Prices are subject to change without notice.



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# Hacker contest inspires developers to produce bag of assorted tricks

*Most entries available free or via Expotech CD-ROM*

By Robert Hess

Ann Arbor, Mich. — The Hack Contest at the annual MacHack conference here this month generated the usual assortment of the unusual, the useful and the fanciful.

Attendees of the four-day developers conference traditionally endure marathon, all-night programming sessions to complete their "hacks" in time for the conference closing contest. As expected, most entrants spend little time guaranteeing bug-free code.

Many of the contest's hacks are available free on ZiffNet/Mac and other on-line services and on the conference CD-ROM, due by mid-August from Expotech Inc. for \$15.

Hacks demonstrated at the conference include:

► **pLayer and AppBar.** Written by CE Software Inc.'s Donald Brown, this pair of utilities gives users a constant floating window containing currently running applications or a folder's contents.

► **Flipper.** Ken Hornak's utility animates a PowerBook screen, flipping it away from the viewer when entering Sleep mode and bringing it back when awakened.

► **ChooserHack.** Logging onto an AppleShare server can be simplified with Nick Kledzik's ChooserHack extension. When installed, a folder named The Network appears on the user's desktop. Inside is one folder for each zone on the network. Inside each zone's folder is another folder representing each server; each server's available volumes are represented by aliases. Logging onto a volume is as simple as opening its alias.

► **QuickDAT and datTime.** Richard Zulch and Stephan Somogyi presented an extension to Dantz Development Corp.'s Retrospect that allows users to save QuickTime movies as long as two hours to a 90-

meter digital audio tape. Playback speed is comparable to running from a hard disk.

► **PageTool.** Developers whose Macintosh Programmer's Workshop builds take longer than a lunch break can use Brian Topping's PageTool to receive notification via their pager when the process is complete.

► **NoSF.** Leonard Rosenthal clearly has it in for the Open and Save dialogs; his NoSF extension makes them modelless. Users can select Open from a menu and switch to the Finder to open a file.

► **Smooth Updates.** Users who are frustrated with windows that redraw sporadically will appreciate Mark Smith's extension, which causes updates to occur at once.

► **OK, What was that again?** Sean Parent and four other hackers presented an extension that presses the default button for the user after 10 seconds has elapsed. Unlike similar utilities, the extension saves a snapshot of the dismissed dialog for future reference.

► **MenuMagic.** A congested Apple menu can take a long time to display. Kevin MacDonell's extension fixes this by caching menu contents for rapid redraw.

► **SegaMac.** Apple's Alex Rosenberg took a subtle route. It was so subtle a route, in fact, that many viewers didn't realize for some time that his hack was an elaborate practical joke. He presented SegaMac as the Mac operating system running on a Sega Genesis video game system, even going so far as to feign concern over the hack's stability and to simulate the Macsbug debugger. Rosenberg had in fact written a remarkably convincing simulation.

► **PJP.** The most blatant practical joke, and the winner of the competition, was presented by Fred Huxham, Fred Monroe and Tim Dierks. The Practical Joke Protocol is a "flexible, extensible, open-standard joke architecture" that makes it easy for networked users to insult, confuse and irritate each other via the Chooser.

Expotech Inc. is at 1264 Bedford Road, Grosse Pointe Park, Mich. 48230-1116. Phone (313) 882-1824; fax (313) 882-6942. □

## AreaList Pro improves 4D's entry, text features

By Robert Hess

Fort Worth, Texas — Foresight Technology Inc.'s AreaList, an external package that expands on the scrolling-list capabilities of ACI US Inc.'s 4th Dimension, has been upgraded to professional status.

Enhancements in AreaList Pro include:

► **Entry.** Designers can now designate multicolumn arrays as "enterable." Such areas resemble a spreadsheet with variable-width columns and offer both data display and entry.

► **Drag and drop.** Items can be dragged from one area to another.

► **More columns.** AreaList Pro areas can contain as many as 100 columns. The previous version was limited to 15 columns.

► **Text characteristics.** Users can control all aspects of a row's text, including font, size, style and color.

► **Multiple lines.** List items, including

headers, may now include several lines of text.

Like previous versions, AreaList Pro lets users filter data entry and provides full 4D procedural control at all times.

AreaList Pro sells for \$295, or \$225 until July 31. Upgrades are \$125.

Foresight has also released a companion package, PrintList Pro. The external extends 4D's array printing capabilities, simplifying the creation of complex reports on the fly, the company said. PrintList Pro lets AreaList Pro users access much of the functionality of 4D's Quick Report editor. PrintList Pro sells for \$175, or \$95 through July 31.

Both external packages come with a license giving developers unlimited distribution rights.

Foresight Technology Inc. is at 4100 International Plaza, Suite 538, Fort Worth, Texas 76109-4818. Phone (817) 731-4444; fax (817) 731-9304. □

# Seize the Day with new animated organizer

By Kirsten L. Parkinson

Calistoga, Calif. — Seize the Day Inc. next month will release its flagship product, a \$59.95 personal information manager that combines calendar, address-book and list-making functions with intricate animated art.

Seize the Day: The Illustrated Personal Organizer includes a list feature, in which users can store everything from names and addresses to grocery lists and goals. The program will ship with three preformatted list templates: a personal address book, a business address book and a general list format.

A separate calendar page lets users view their schedules in day, week, month or six-month displays. Users can type new activities directly into the calendar in the day and week views and attach alarms to events.

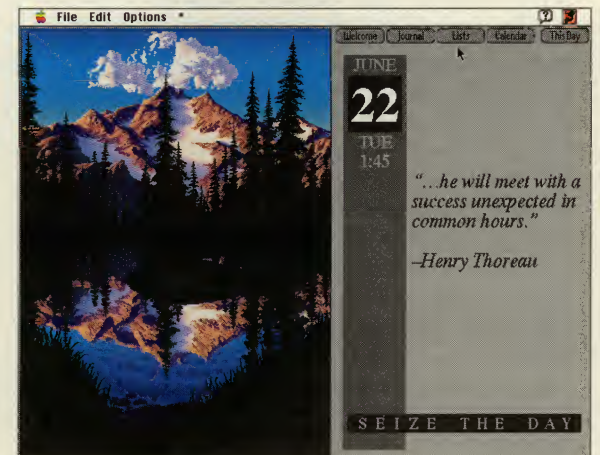
Seize the Day also incorporates a journal option, which offers users daily inspirational quotations and commentaries, as well as a blank page for users to record their own thoughts. Users can also click on a button to see a list of historical events that happened on that date.

The program will ship with Living Worlds, a collection of 12 animated outdoor scenes. The images

are linked to the CPU's clock and change to reflect the time of day, seasons and climate.

The company next month will release plug-in modules that will allow users to incorporate additional art and journals into the program. The add-ons, which will range from \$19.95 to \$29.95, cover a variety of subjects, including Salvador Dali paintings, a sports journal, and historical events in literature and music.

Seize the Day Inc. is at P.O. Box 833, Nizhoni Way, Calistoga, Calif. 94515. Phone (707) 942-9391; fax (707) 942-2998. □



Seize the Day: The Illustrated Personal Organizer incorporates animated art that changes based on the seasons, climate and time of day.

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# Developers outline 'set-top' plans at NCTA conference

## Computer, cable companies plan interactive home TV

By Steve Rosenthal

San Francisco — The confluence of the computer, communications, publishing and entertainment industries predicted by Apple Chairman John Sculley got a jump-start at the annual National Cable Television Association convention here this month.

Major computer and software companies took the opportunity to announce new architectures, products and business alliances that will tie the computer desktop with the TV "set-top."

At the NCTA conference, Microsoft Corp., Intel Corp. and cable supplier General Instrument Corp. elaborated on their plans to develop a new generation of set-top boxes. The three companies demonstrated refinements to their prototype of a Windows-derived user interface designed to help cable customers navigate through future systems comprising hundreds of channels.

Kaleida Labs Inc. took the spotlight on the opening day of the conference. The Apple-IBM Corp. joint venture (formed to develop multimedia projects) announced it will work with Motorola Inc. to put Motorola's PowerPC chip and Kaleida's cross-platform ScriptX multimedia software environment into a new generation of cable-converter boxes manufactured by Scientific Atlanta Inc.

The companies said the new systems will have enough power for applications such as virtual-reality-based shopping and interactive education.

Silicon Graphics Inc. unveiled plans to supply high-end video servers and other technology for an experimental interactive cable system being developed by cable and entertainment giant Time Warner Inc.

IBM, which recently announced it will work with TV set maker Thomson Consumer Electronics on video technology, paired with start-up New Century Communications Inc. to demonstrate server-based interactive video applications. IBM said these applications could be installed in some systems by year-end.

Digital Equipment Corp. said it will enter the video-server market and announced plans to sell technology that turns a vacant cable TV channel into a bridge between Ethernet networks.

AT&T Co. also said it will market video servers as well as Asynchronous Transfer Mode switches that offer individualized video connections and interactive communication over cable.

After the conference, Microsoft announced it will work with Time Warner and Telecommunications Inc. to develop content and software for interactive video systems.

Apple may be poised to play a more direct role in the growth of TV technology, said Joshua Harris, president of Jupiter Communications Co., a New York-based research and consulting company.

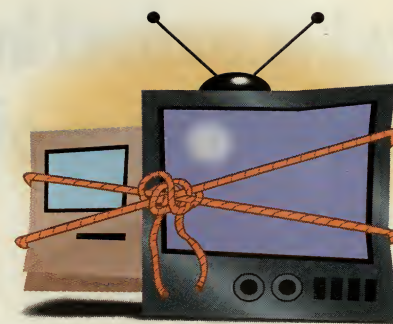
Apple is "well-suited for that market because of [its] reputation for ease of use," Harris said.

To reach a mass-consumer market, however, the company will "have to be two orders of magnitude more [user] friendly" than it has been, he said.

According to Nick Arnett, president of Multimedia Computing Corp. of Campbell, Calif., "It's no longer just a question of

technology." The shifting and evolving links between companies are beginning to shape which approaches receive support and which will remain merely experiments.

At this point, he said, "cross-industry alliances themselves are becoming a key strategic asset." □



NEVIN BERGER

## THIS SHOULD GIVE YOU OF WHY WE CREATED A

The image you see over there started out attached to the image you see over here. But as this document made its way down to the printer, the Macintosh it was created on recognized a small problem: 11 x 17 pages can't fit through 8½ x 11 printers.

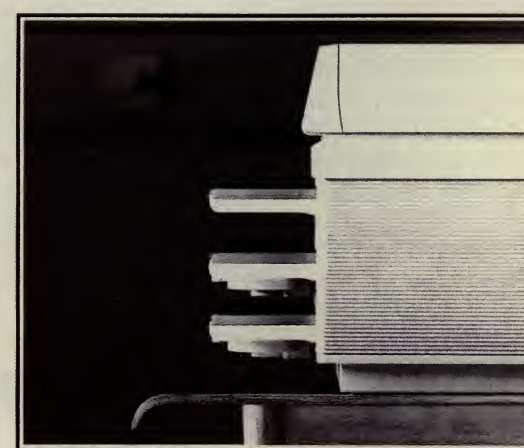
And so, out came the electronic scissors.

Now, if you're like many Macintosh users, you know all about this routine. And you know how it feels to walk into a meeting with a layout that contains hours of blood, sweat and tears,

and a fat strip of tape right down the middle. Enough said.

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COMPAQ PAGEMARQ Laser Printers. A line of



machines that can print 11 x 17 pages in a single pass. And because they come with up to three

paper trays, these printers also let you switch between paper sizes without ever leaving your desk. So you don't have to pull one paper tray out and replace it

with another, only to have your neighbor repeat the process two minutes later. And for

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# MicroNet readies new 3.5-inch, DAT, MO drives

By Kirsten L. Parkinson

New York — MicroNet Technology Inc. this week will introduce a slew of new high-end storage systems at PC Expo here.

► **Barracuda drive.** Based on a 3.5-inch Seagate mechanism, the 2050/RA Barracuda drive provides a capacity of 2 Gbytes. The

\$4,650 drive, which shipped last week, has a spindle speed of 7,200 rpm, an average access time of 8 milliseconds and a sustained data transfer rate of 4.8 Mbytes per second.

► **DEC drives.** Digital Equipment Corp. last week shipped two 3.5-inch high-capacity drives based on a DEC mechanism. The

\$3,100 1601/RA, with a capacity of 1.6 Gbytes, offers a sustained data transfer rate of 4.3 Mbytes per second and an average access time of 9.5 milliseconds. The 2-Gbyte 2002/RA, which lists for \$4,450, has an average access time of 9 milliseconds and a transfer rate of 4.9 Mbytes per second.

► **DAT drive.** MicroNet's D16000, a \$2,830 digital audio tape drive due in August, is based on a Sony mechanism that implements the new Digital Data Storage-2 (DDS-2) standard (see MacWEEK, April 19). With support for 120-meter DDS-2 tapes and built-in compression, it offers a maximum capacity of 16 Gbytes per tape, or about 8 Gbytes in normal use. The drive can also read and write 60- and 90-meter DDS tapes.

► **Quadra-800 arrays.** The company's Raven-800 arrays, available in capacities ranging from 1 Gbyte to 5.5 Gbytes, stripe data across two drives to cut access times to as little as 4 milliseconds and boost transfer rates to as much as 6.2 Mbytes per second. The systems, which list for \$3,390 to \$11,690, ship with the company's NuPort-III SCSI adapter card.

MicroNet is also offering upgrade kits for Quadra 800 owners whose systems came with 500-Mbyte or 1-Gbyte drives from Apple. The kits, which make the original drive part of an internal array, include a second drive mechanism that matches the original, plus mounting brackets, a NuPort-III card and array software. A kit with a 500-Mbyte drive lists for \$2,045; one with a 1-Gbyte mechanism is \$2,495.

► **1.3-Gbyte optical drive.** A magneto-optical drive based on Maxoptix Corp.'s T3-1300 mechanism, which offers a capacity of 1.3 Gbytes per 5.25-inch cartridge, is due in August for \$5,230. The SB-TMO-1300 will provide an average seek time of 18 milliseconds and data transfer rates of up to 2 Mbytes per second. Cartridges will be sold separately for \$349. The drive can also read and write 650-Mbyte cartridges and Maxoptix's proprietary 1-Gbyte format.

MicroNet Technology Inc. is at 20 Mason, Irvine, Calif. 92718. Phone (714) 837-6033; fax (714) 837-1164.

## A PRETTY GOOD IDEA 11 x 17 LASER PRINTER.

people whose design ambitions extend beyond Helvetica Bold, Pagemarq Printers offer two ways to expand your type library, eliminating the need to Modules, and store as many as 40 additional fonts. Or you can add an internal 60-MB Hard Drive, and store everything from Avant Garde to Zapf Chancery—as many as 1,500 fonts. Laser Printers are fully backed by CompaqCare, our extensive service and support program. Which includes a one-year, on-site\* limited warranty as well as unlimited phone support.



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## Tools let ObjectModeler use Objectory method

By Ian G. Jacobs

Santa Monica, Calif. — Object-oriented programmers now have a new weapon in their arsenal.

Iconix Software Engineering Inc. this month added tools to use the Jacobson's Objectory method to its ObjectModeler computer-aided software and engineering package. The Objectory method, developed in Sweden, is based on the concept of "use cases," which are techniques for recognizing actual system use and the needs and activities of the user.

The new version includes use-case and model diagrams for analysis, design and objects. An implementation model using ObjectModeler's editor is also included. In addition, the upgraded ObjectModeler supports development in the Smalltalk language; previously, it supported development only in C++ and SQL.

The \$995 ObjectModeler is one of 10 modules in Iconix' PowerTools CASE system. Each module costs \$995. The ObjectModeler upgrade is free to users registered in the company's annual upgrade contract, which costs 15 percent of the software purchase price.

Iconix Engineering Inc. is at 2800 28th St., Suite 320, Santa Monica, Calif. 90405. Phone (310) 458-0092; fax (310) 396-3454. □



# Mathcad gets function add-on, books

By Raines Cohen

Cambridge, Mass. — MathSoft Inc. this month shipped an add-on function pack and four new interactive reference books that extend the company's Mathcad application.

The Differential Equations Function Pack, priced at \$129, contains algorithms used in engineering and physical science to solve ordinary and partial differential equations. It covers analysis of wave motion, electric circuits, spring motion, radioactive decay, bending in a beam, heat transport and other applications.

The scientific and mathematical

electronic books, priced from \$99 to \$249 each, let Mathcad users access formulas, constants and diagrams related to a particular topic.

Users can change mathematical values, parameters and plots and watch Mathcad calculate the answers directly in the book or save them in a worksheet.

The reference books include:

► Roark's Formulas for Stress and Strain (6th Edition), Vol. 1: Straight Beams and Bars, published by McGraw-Hill, which covers loading, stress, force, slope, deflection and elasticity.

► Mathcad Treasury of Statistics, Vol. II: Data Analysis, which describes and implements many statistical-analysis routines.

► Mathcad Treasury of Methods and Formulas, 2nd Edition, which teaches basic Mathcad skills and new features.

► Topics in Mathcad: Numerical Methods, which provides background information on 39 numerical methods and annotated solutions.

MathSoft Inc. is at 201 Broadway, Cambridge, Mass. 02139. Phone (617) 577-1017 or (800) 628-4223; fax (617) 577-8829. □

## Conner DAT drive to double existing capacities

By Kirsten L. Parkinson

Costa Mesa, Calif. — The Tape Products Group of Conner Peripherals Inc. — formerly Archive Corp. — has scheduled an August release for a digital audio tape drive with twice the capacity of existing DAT units.

The Conner DAT drive will be based on the popular Archive Python mechanism. However, the drive will add support for the Digital Data Storage-2 format, which boosts capacity compared with the original DDS standard by using longer tapes — 120 meters instead of 60 or 90 meters — and writing 50 percent more tracks per inch. The system can store up to 4 Gbytes of uncompressed data on a 120-meter tape. With the drive's built-in com-

pression capabilities enabled, the same tapes can hold a theoretical 16 Gbytes, although actual capacity for a normal mix of files is typically about half that.

The 3.5-inch mechanism offers a sustained data transfer rate of 400 Kbytes per second without compression and up to 1.6 Mbytes per second with compression, according to the company. In addition to the new 120-meter tapes, the drive can read and write 90-meter tapes.

The new drive is currently shipping to OEM customers; it will be available to end users in August, the company said. It will ship in three configurations: 3.5-inch and 5.25-inch internal configurations and an external model.

Retail pricing has not been announced, but Conner estimates the street price for the drive will be less than \$2,000.

Conner Peripherals Inc. is at 3081 Zanker Road, San Jose, Calif. 95134. Phone (408) 456-4500 or (800) 526-6637; fax (408) 456-4501. □

## Texel claims drives fastest in industry

Santa Clara, Calif. — Texel last week introduced two new CD-ROM drives it bills as the fastest in the industry.

Based on a proprietary mechanism, the DM-3028 internal drive and the DM-5028 external model will offer a sustained data transfer rate of 335 Kbytes per second and an average access time of 240 milliseconds.

The drives, slated to ship in August, will have a 64-Kbyte buffer built in. They will be compatible with multisession Eastman Kodak Co.'s Photo CD and CD-ROM-XA formats, the company said.

The internal DM-3028 will list for \$499, while the external DM-5028 will be \$599. Both models will come with a one-year warranty.

Texel, a subsidiary of Shinano Kenshi Co. Ltd. of Japan, is at 4255 Burton Drive, Santa Clara, Calif. 95054. Phone (408) 980-1838 or (800) 886-3935; fax (408) 986-1010. □



Texel's new CD-ROM drives provide a speedy sustained data transfer rate of 335 Kbytes per second.

## GCC slices prices on low-end laser printer line by up to 23%

By Matthew Rothenberg

Bedford, Mass. — GCC Technologies Inc. recently scaled down prices at the low end of its laser printer line.

The cuts encompass GCC's PLP II, BLP Elite and BLP Eclipse models, all of which are based on 300-dpi Oki engines.

The QuickDraw-based, 4-page-per-minute PLP II and 8-ppm PLP IIS have been cut from \$739 to \$659 and from \$1,099 to \$999, respectively. Sources said the company plans to discontinue the PLP IIS. Both models ship with 1 Mbyte of RAM as well as Adobe Type Manager. The PLP II includes 21 Type 1 fonts, and the PLP IIS comes with 38 Type 1 fonts.

The company cut prices on both the 4-ppm and 8-ppm versions of its PostScript Level 1-compatible BLP Elite models. The 4-ppm configuration has been cut from \$1,149 to

\$879 with 2 Mbytes of RAM and from \$1,348 to \$1,078 with 4 Mbytes of RAM. The 8-ppm version of the BLP Elite has been reduced from \$1,399 to \$1,199 and from \$1,598 to \$1,398, respectively, in 2-Mbyte and 4-Mbyte configurations.

Pricing on the 4-ppm version of GCC's new RISC-based, Level 2-compatible BLP Eclipse printer has been cut from \$1,399 to \$1,099. The BLP Eclipse 4, which includes PhoenixPage PostScript emulation and 17 Type 1 fonts, runs on a 16-MHz AMD 29200 RISC chip and ships with 2 Mbytes of RAM.

In addition, GCC announced that the price to upgrade from a PLP II to a BLP Elite has been reduced from \$599 to \$399.

GCC Technologies Inc. is at 209 Burlington Road, Bedford, Mass. 01730-9143. Phone (617) 275-5800; fax (617) 275-1115. □



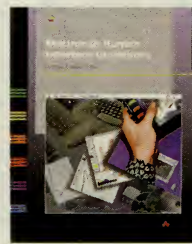
## FROM THE Bookshelf

This column showcases the volumes now available in the revised "Inside Macintosh" series, Apple's collection of technical reference guides for developers and power users.

### Inside Macintosh: Overview

Aimed primarily at developers, this book provides an overview of the operating system, toolbox and system software services. Using the source code for a simple application, it illustrates how to write Mac applications.

\$22.95 / 251 pages / ISBN 0-201-63247-0



### Inside Macintosh: Macintosh Human Interface Guidelines

Creating standardized and customized interfaces is the subject of this guide. It offers extensive instruction in creating windows, menus and dialog boxes.

\$29.95 / 384 pages / ISBN 0-201-62216-5

### Inside Macintosh: Text

This guide to the Mac's main input format covers everything from the Font Manager to QuickDraw. It includes Apple's guidelines for handling text in any language.

\$39.95 / 1,028 pages / ISBN 0-201-63298-5

### Inside Macintosh: QuickTime

Manipulating QuickTime data with the Movie Toolbox and using compression to enhance performance are among the topics covered.

\$29.95 / 668 pages / ISBN 0-201-62201-7

### Inside Macintosh: Files

This guide covers the commands commonly included in an application's File menu. It teaches how to program applications to create, open, save and close files and offers tips on managing shared files.

\$29.95 / 511 pages / ISBN 0-201-63244-6

### Inside Macintosh: Macintosh Toolbox Essentials

This guide explains how developers can create menus, dialog boxes, scroll bars and numerous other features of the Mac interface.

\$34.95 / 873 pages / ISBN 0-201-63243-8

All "Inside Macintosh" books are available from:

Addison-Wesley Publishing Co.

1 Jacob Way, Reading, Mass. 01867

Phone (617) 944-3700 or (800) 358-4566;

fax (800) 333-3328



# IF YOU'RE NOT IN BOSTON A DAY EARLY, IT WILL BE TOO LATE.



Macintosh Volume Buyers

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**Copley Plaza Hotel, Boston, August 2, **the day before** the Macworld show opens.**

MacWEEK readers are busy. Sure, you always make time to see the latest products at the industry shows, but it's exhausting to wade through the crowds. It takes too much time searching for someone who can answer important questions about product features, system requirements, service availability, pricing.

Or, there is MacWEEK's annual MVB event in Boston. The MVB show is designed to give a limited

number of MacWEEK readers the opportunity to get a close look at the latest products for the Macintosh. The most innovative Macintosh vendors will be there to demonstrate products and answer questions.

The MacWEEK MVB event will be held in Boston on August 2nd, the day before the Macworld show. The product exhibition hours are 1:30 to 4 pm, all guests are eligible for our product drawing.

**The MacWEEK MVB event is the opportunity for you to make the most of your time in Boston. To reserve a ticket, please complete the form and fax it to the number indicated. Complete schedule and exact location information will be sent with your confirmation.**

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## Symantec upgrades Act!, cuts price

By Kirsten L. Parkinson

Cupertino, Calif. — Symantec Corp. this week will get its Act! together with the release of Version 1.1 of the contact-management application.

The company, which this month completed the acquisition of Act!'s developer, Contact Soft-

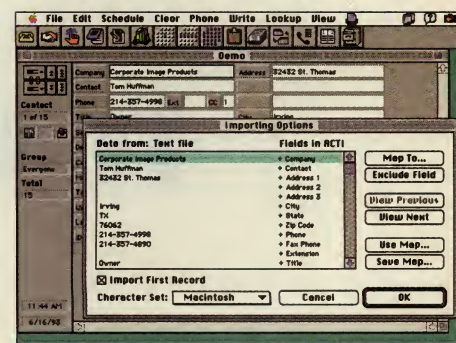
ware International Inc. (see MacWEEK, May 10), will also drop the price from \$395 to \$249.

New features in Act! 1.1 include:

► **Improved performance.** The program now implements a number of features, including searches, save functions and contact merges, up to 300 percent faster, the company said.

► **Enhanced importing.** A new mapping feature lets users match Act! fields with the tab- or comma-delimited text to be imported. The program also includes predefined maps for After Hours Software's Touchbase, Power Up Software Corp.'s Address Book Plus and Portfolio Software Inc.'s Dynodex, as well as an import filter for dBASE files.

► **Quick List.** Version 1.1 lets users save a list of frequently called phone numbers in the Phone menu. When a number in the Quick



Version 1.1 of Act! for Macintosh adds a mapping feature that lets users match Act! fields to tab- and comma-delimited text to be imported.

List is selected, Act! automatically opens that contact record and dials the number.

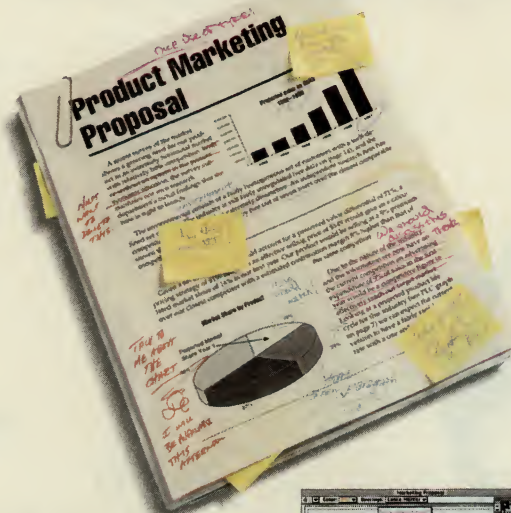
► **Transfer.** Users can move selected contact records to another Act! database with the program's new transfer feature. If the recipient file is open, Act! automatically closes it before transferring.

Act! 1.1 also includes improved merge functions and an auto-save feature.

Upgrades are free.

Symantec Corp. is at 10201 Torre Ave., Cupertino, Calif. 95014-2132. Phone (408) 252-3570 or (800) 441-7234; fax (408) 252-4694. □

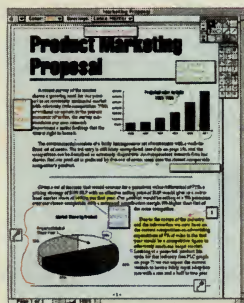
## Perfect It.



### MarkUp 2.0 Document Editing and Review

You've put a lot of work into that document. Now you just need to show it to a few people, get their comments, and it will be golden. Unfortunately, this usually means passing out copies to each reviewer in a group, then waiting to get the copies back, only to end up with a stack of papers covered with scribbled marks and little stick-on notes. So much for feedback.

With MarkUp, this process is Mac-based, making it automatically easier. Instead of passing out paper, a review version of any document is sent—through e-mail, over a network, or even on a disk—to each person in your group or just to the guy down the hall. The review version is an electronic copy, created by MarkUp, that looks exactly the same as the original would look on paper.



Instead of marks on paper, MarkUp offers two full palettes of tools and proofreader's marks. There's a highlighter tool, a strikeout tool, note windows to replace those stick-on tags, even a voice-annotation tool and QuickTime support to convey a message as only sound or pictures can.

Instead of collating multiple paper-based versions, MarkUp shows each reviewer's edits on a named overlay. These can be viewed individually or merged together into a single review document—with each set of revisions still identifiable.

Now you won't have to wade through the paper flood again. Review a single MarkUp file, choose the edits you want to implement, then just do them.

MarkUp helps you and your co-workers review and improve your documents. Buy MarkUp today and create winning documents—easier than ever before.

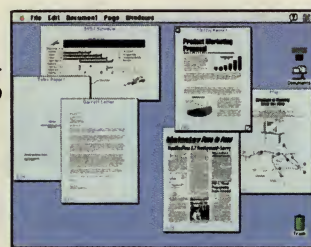
## Protect It, Organize It, Retrieve It, Share It, Leverage It...

### MarcoPolo 2.0 Document Imaging and Management

You're overloaded with information: in your head, on your hard drive, in a file cabinet, scattered all over your desk. Most of it buried in different documents of various formats. You need a way to keep it safe, organize it, have it at your fingertips, and share it with your co-workers.

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Document centers are password protected and can be located on local hard drives, to keep yourself organized, and on networked volumes, to facilitate group collaboration. MarcoPolo



handles anything—letters, reports, page layouts, spreadsheets, e-mail, blueprints, artwork, movies, clipings, and more.

Search any or all document centers to which you have access. A search query can be driven by any combination of keywords, document content, archival date, or document owner.

Files that match query criteria are listed in a window. A double-click on the name displays a MiniPage—a miniature representation of the document—for easy recognition. Another double-click will bring a full-sized view of the document. Keep documents from many different applications on the desktop and view them instantly.

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For a free demo disk and catalog,  
phone, write, or fax Mainstay today.

## Mainstay

## New Mirror color monitor has built-in stereo sound

St. Paul, Minn. — Mirror Technologies Inc. this month shipped the latest addition to its ProView series, a color monitor with built-in stereo sound.

The ProView 14-inch Multimedia Color Display, priced at \$499, offers a resolution of 640 by 480 pixels at 69 dpi and has a 66-Hz refresh rate. The non-Sony Trinitron monitor is compatible with any Mac with built-in video and a variety of Apple or third-party graphics cards supporting 14-inch displays.

The monitor features built-in speakers, a headphone jack, and stereo line inputs that can accept Mac audio or be connected directly to a CD-ROM drive for playing audio CDs.

The ProView display has a tilt-and-swivel base and front image-adjustment controls. It conforms to Swedish safety standards for extremely low and very low frequency emissions.

Mirror Technologies Inc. is at 305 Second St. N.W., St Paul, Minn. 55112. Phone (612) 633-4450; fax (612) 633-3136. □

## DiscMore ships art CD-ROMs

Edmonton, Alberta — DiscMore Productions Inc. last month shipped a collection showcasing some of the world's most famous art and architecture.

Sightlines, a double CD-ROM set, contains 24,000 images, including Picasso paintings and photographs from NASA's Voyager spaceship.

The \$295 HyperCard-based Sightlines lets users annotate each image and search for images by keywords. It uses a QuickTime viewer to display found images.

Sightlines is \$195 for educational institutions.

DiscMore Productions Inc. is at 4130 95th St., Edmonton, Alberta T6E 6H5, Canada. Phone (403) 450-2734; fax (403) 450-9143. □

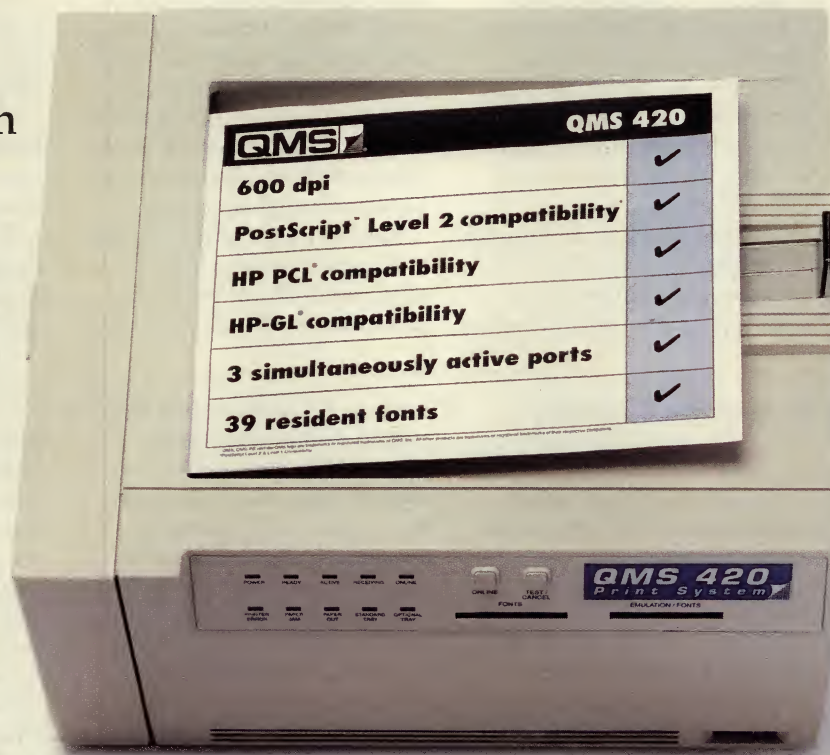


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## Management

# Remote access may signal a long-distance revolution

*As remote-access hardware and software gets refined, 'office' is becoming a relative term.*

By Jeff Ubois

The 1 million-plus PowerBooks now in use are changing the way organizations function and forcing Mac managers to rethink how to set up and support users in the field.

The strategic objective for most companies adopting remote-access tools is relatively clear: to enable people to work wherever they are as if they were in their home office.

"Senior people want their office at their fingertips, so no matter where they are, they can get access to the stuff they need to work with," said Rick Richardson, national director of technology for Ernst & Young of New York.

The tactical issues involved in supporting remote and distributed applications — security, licensing, how to link back to corporate networks, the relative slowness of dial-up links and where to store data — are less clear. But for many companies, the combination of PowerBooks and AppleTalk Remote Access (ARA), which lets users set up AppleTalk networks over ordinary telephone lines on an ad hoc basis, is a powerful one.

"ARA goes a long way toward making the PowerBook into one of the best business tools on the market today," said Dave Lustig, manager of technical services at Bose Corp. of Framingham, Mass. "Our people in the field are currently being outfitted with PowerBooks, Global Village PowerPort modems and ARA, which lets them just

click on an icon to get connected."

Lustig uses Shiva Corp.'s LanRover/E, a multiport ARA server for Ethernet that manages connections by remote users and handles security and administration. Traveling users can log onto the network from any Bose office anywhere in the world. As with many other companies, the driving application for remote computing at Bose is sales-force automation (see story below). "Sales support is where the battles are won and lost," Lustig said. "How we support our dealer network and our sales force are of paramount importance to Bose."

## Slow links

Like all remote technologies, ARA suffers from the comparative slowness of dial-up lines. "ARA is nice because it gives the remote user the ability to be live on the network, but we are stuck with 9.6-Kbps links that are one-thousandth the speed of Ethernet," said Robert Harbison, principal of Network Integration Consultants of Sausalito, Calif.

Even though ARA lets remote users issue commands on their LANs as if they were in the office, performance problems make it impractical to do certain tasks, such as load applications, that require full LAN speeds.

Harbison said that one approach to the problem of slow links is to use remote-control and screen-sharing programs such as Timbuk-



Nicholas Rudd, chief information officer for Young & Rubicam, said the "transformational possibilities" of remote-access technologies would allow the company to streamline existing business practices and create new ones.

tu from Farallon Computing Inc. of Alameda, Calif. "It's a question of remote log-on vs. remote control," he said. "With remote control, only the keystrokes and display get transmitted, so I get superior performance."

Electronic-mail vendors also offer connections for remote users. QuickMail from CE Software Inc. of West Des Moines, Iowa; cc:Mail Macintosh from Cambridge Mass.-based Lotus Development Corp.; and Microsoft Mail from Microsoft Corp. of Redmond, Wash., all have remote-access capabilities. While E-mail packages can be made to handle other functions, such as file transfer, they are somewhat less flexible solutions because remote users are limited to a single application.

Another type of remote access is available with bulletin board systems, such as NovaTerm Professional from ResNova Software Inc.

of Huntington Beach, Calif.; TeleFinder from Spider Island Software of Irvine, Calif.; and First-Class from SoftArc Inc. of Scarborough, Ontario.

Russ Reynaga, senior member of the technical staff at Pitney Bowes Inc.'s Shipping and Weighing Systems Division in Shelton, Conn., uses TeleFinder to handle remote access for people inside and outside the company. The BBS allows remote users access to their desktops, shared file areas and E-mail.

"Users can get to any server mounted on the TeleFinder desktop," Reynaga said. "It's as handy as \$100 bills."

## Security issues

One of the chief concerns among managers of remote users is security. For some, it's simply a matter of changing passwords every few weeks, but for others, even ARA's dial-back security falls short.

"ARA didn't fit our security needs with dial-back," said Bill Zwicky, an analyst at Cray Research Inc. of Eagan, Minn. Instead, the company has opted to go with the ACE/Server from Security Dynamics Technologies Inc., also of Cambridge, which uses a separate credit card-size computer to generate new passwords for every remote session and eliminates the need for dial-back security. "Dial-back is difficult anyway if your number is changing every day," Zwicky added.

Another problem with ARA, Zwicky said, is inadequate logging. "ARA just shows when someone connected and disconnected — if you want to keep track of who is getting into the system and what they are doing, the capability really isn't there," he said. "Centralized security is really important because

See Remote access, Page 32

## Sales-force automation boosts productivity

For many organizations, sales support has emerged as the *raison d'être* for remote computing.

"I have yet to see a sales-force automation project on Macintosh that didn't have a first-year pay back," said Tom Peterson, a partner at Sales Automation Inc. of Northampton, Pa. "This technology lets salespeople spend more quality time with their customers."

Sales-force automation standardizes sales presentations and methods, which leads to immediate improvements in the effectiveness of new and less productive salespeople. "You can get everyone to mimic the process that the best people in the company use," Peterson said. It also helps salespeople follow

up on leads by automating letter and proposal writing, as well as reminding them of deadlines and appointments.

The nature of sales requires salespeople to be almost constantly on the road. Vendors of sales-force automation packages such as C•A•T III from Chang Laboratories Inc. of Santa Clara, Calif.; Market Master for the Macintosh from Breakthrough Productions of Nevada City, Calif.; and SuperOffice from SuperOffice Corp. of Bedford, Mass., have responded by providing remote links to their products. These typically include features that allow multiple users to share the same database and synchronize data on multiple PowerBooks by

swapping incremental update files.

"[Remote-sales-automation software] allows our people to be out of the office more, talking with their customers and prospects, because their office is now on the road with them," said Brian Brown, executive vice president of ABT Water Treatment Inc. of Belvedere, Ill. "It's also eliminating the paperwork and downtime in the office and allowing us to qualify and grade the amount of work being done by each person."

ABT's sales representatives use PowerBooks, Breakthrough's Market Master and White Knight from The FreeSoft Company of Beaver Falls, Pa. "We've already had pay back on the system — in just four months," Brown said.

— By Jeff Ubois



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## Remote access *From Page 30*

ARA opens a lot of areas where you can be vulnerable."

Reynaga said BBSes offer more flexible security than ARA. "Sometimes we would like to give a user access to his individual folder on one server, and I can do that with TeleFinder, but you can't do that with ARA," Reynaga said. "With TeleFinder you have individualized access to folders on the server, and if you mount remote servers on the TeleFinder desktop through file

sharing, you can then give privileges to individual users."

Pitney Bowes' TeleFinder board is accessible via a toll-free number, and it uses dial-back technology both for security and to save users the cost of toll calls.

Reynaga also has two Shiva LanRover/L servers and one Shiva LanRover/E server, but he uses them primarily to allow remote maintenance, not remote access. "We have only a few people trusted on the LanRovers," Reynaga said.

Finally, physical security is important, too: A lost or stolen PowerBook filled with confidential data or automated log-on scripts and passwords for the corporate

network could have catastrophic effects on a company.

### Administrivia

Setting up a system is less than half the battle. Maintenance, support, training and software updates are important, too.

For example, Northern Telecom of Toronto uses remote computing to let field-service engineers and salespeople update service and sales reports and exchange E-mail worldwide. "Frequently, a salesperson or engineer will need critical information about a site or the switch," said Fraser Moffatt, office automation coordinator at Northern Telecom's switching division in Toronto.

"Instead of calling someone at the main office to have them look it up or having to drive back, they can dial in from a PowerBook."

Although one big advantage the system provides is eliminating communications problems caused by time-zone differences, voice contact is still important. "You really need to have the support side of the house in place," Moffatt said. "If a vice president is dialing in for E-mail and can't get it, you have to be able to say why."

Ease of use and training are also important, Moffatt said. "You have to make it seamless and easy for the customer to get in and do work," he said. "You can't have all the handshaking take too long, or the service will never fly."

Managers also need to keep legal issues in mind. Executives outfitted with both desktop machines and

PowerBooks may be tempted to copy applications from one to the other. "Licensing is going to be a real key issue," Harbison said. "If you find users copying software illegally, you'd better put a stop to it."

But good remote-access technology can simplify software distribution and ensure compliance with license agreements. "We have site licenses for some products, so when upgrades come out, I can distribute them to selected users over the BBS," Reynaga said.

### The long view

Nicholas Rudd, chief information officer for Young & Rubicam in New York, is looking at remote computing from a strategic point of view. Rudd said that remote-access technologies would allow the company to streamline existing business practices and create new ones.

"The transformational possibilities of remote computing are the benefits that come from having a new set of tools," Rudd said. "On one level we are talking about automating what we do now, but there are more possibilities in changing the things we do, and I frankly don't know what that is going to look like. I don't think anybody does."

Rudd said possibilities include having specialists telecommute to where they are needed, holding worldwide conferences on an ad hoc basis and providing enterprise-wide database access.

Another issue, Rudd said, is what information remote users will have

access to. "There is a tension between wanting the knowledge worker to have access to whatever information in the enterprise that can help him or her do the job and giving so much access that it would allow individuals to act inappropriately," he said.

At a more mundane level, Rudd worries about the physical security of PowerBooks. "Dial-in security is an issue the market will solve and I'll ride along, but physical security for the machines and the data is something we have to get our people to think about."

Back at Ernst & Young, Richardson said he expects that remote computing will change what offices look like by enabling "hoteling," that is, the elimination of permanent offices in favor of temporary work spaces set up on an as-needed basis. Personal items could be kept in a central location, taken out and set up for a few days or a few weeks when they are needed, then put back in storage when executives are out on the road.

"People [would] no longer actually have to have desks — we are trying to get rid of the desktop and replace it with the work space," Richardson said. "We expect that through hoteling, we can sizably reduce the amount of office space we need."

Finally, Richardson emphasized that the move to remote computing is an iterative process. "We won't get it all right the first time," he said. "It's crucial to give people time to see where it works well and where it doesn't." □

"[Remote] users can get to any server mounted on the TeleFinder [BBS] desktop. It's as handy as \$100 bills."

— Russ Reynaga

## Calendar of Events

### JULY

**8-10:** MacShow, Chicago. General Mac trade show and conference. Contact The Show Management Co. Inc. at (215) 957-9111 or (800) 622-7469; fax (215) 957-9497.

**11-16:** National Conference on Artificial Intelligence & Conference on Innovative Applications of Artificial Intelligence, Washington D.C. Contact the American Association for Artificial Intelligence at (415) 328-3123; fax (415) 321-4457.

**12-15:** Image World, Dallas. Combination of two expositions and seminar programs — Video Expo and the CAMMP Show — for computer animation, graphics, multimedia and presentation professionals. Contact Knowledge Industry Publications at (914) 328-9157 or (800) 800-5474; fax (914) 328-9093.

**13-15:** Informix Worldwide User Conference, San Jose, Calif. Conference and exhibition for users of the company's database and connectivity products. Contact

The Conference Group at (602) 661-1260 or (800) 247-0262; fax (602) 661-0449.

**21-23:** Memory Expo, Santa Clara, Calif. Information, exhibits and user round tables on the latest in memory-card technologies. Contact Memory Expo at (303) 220-0600 or (800) 525-9154; fax (303) 770-0253.

**22-23:** QuarkXPress Users International Conference, New York. Annual conference of QuarkXPress Users International; two days of conferences and seminars, ranging from basics to complex applications. Contact QUI at (603) 898-2822; fax (603) 898-3393.

### AUGUST

**1-6:** Siggraph '93, Anaheim, Calif. The Association for Computing Machinery's Special Interest Group on Computer Graphics and Interactive Techniques' 20th annual international conference. Contact the Association for Computing Machinery at (312) 321-6830; fax (312) 321-6876.

**2:** Scientific & Engineering Applications of the Macintosh, Woburn, Mass. Pre-

Macworld Expo conference and exhibits on technical topics and products. Contact MacSciTech Inc. at (508) 755-5242; fax (508) 795-1636.

**2-6:** Tools USA '93, Santa Barbara, Calif. International forum on industrial applications of object-oriented methods and tools. Contact Tools Conferences at (805) 685-1006; fax (805) 685-6869.

**3-5:** Downsizing Expo, Santa Clara, Calif. Networking computer event consisting of operating systems and enterprise network conferences, as well as 10 others. Provides spectrum of information on downsizing-rightsizing and client-server computing. Contact DCI at (508) 470-3880; fax (508) 470-0526.

**3-6:** Macworld Expo, Boston. East Coast incarnation of the annual industry conference. Contact Mitch Hall Associates at (617) 361-8000; fax (617) 361-3389.

**7-9:** Apple Global Education Conference, Boston. Event bringing together Apple enthusiasts, teachers, students, administrators and education technologists from all over the

world. Contact George Abbott White at (617) 738-7081.

**9-12:** GroupWare '93, San Jose, Calif. Tutorials and sessions on commercial groupware solutions. Contact the Conference Group at (602) 661-1260; fax (602) 661-0449.

**11-14:** ComputerLand Business Technology Conference and Technical Expo, Washington D.C. Show focusing on emerging network technology. Contact ComputerLand at (510) 734-4001; fax (510) 734-4802.

**19-21:** Macintosh Summit Conference, Santa Barbara, Calif. Fourth-annual meeting focuses on better utilization of Macs at corporate and individual levels. Contact UCSB Extension at (805) 893-4143; fax (805) 893-4943.

*Please submit notices of conferences, trade shows and other Mac-related events to Calendar, MacWEEK, 301 Howard St., 15th floor, San Francisco, Calif. 94105, or fax to (415) 243-3650. No training or educational seminars please.*



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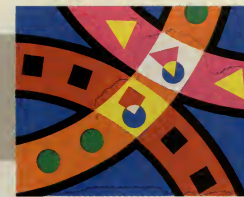
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## Router makers dig separate tunnels

### New encapsulation methods to debut

By April Streefer

San Jose, Calif. — If what goes around comes around, innovation in AppleTalk tunneling that went out the window at last fall's Interop '92 conference is coming around here this week at Mactivity '93.

Shiva Corp. will revive the jointly developed Dr. Pepper encapsulation method that narrowly missed being introduced last year and unveil it as TunnelTalk. Cayman Systems Inc. will unveil its own improved encapsulation method called TREDI (Traffic-Reduced Encapsulation of DDP in IP) and Farallon Computing Inc. will become the

first third-party vendor to announce support for Apple Update-based Routing Protocol (AURP), Apple's wide-area protocol that includes tunneling.

Last fall Shiva was one of a group of five router vendors ready to publicly introduce Dr. Pepper, which tunnels AppleTalk over large IP networks and reduces some of the protocol's chatter. Apple, with its own tunneling method waiting in the wings as part of AURP, exhorted the five to abandon the introduction.

Instead, Apple and the router vendors formed the AppleTalk Network Forum (ANF) to review different tunneling specifications and other future AppleTalk innovations.

Now, with AURP in review by ANF and both Shiva and Cayman submitting their respective methods to the forum, users will soon be confronted with at least three choices for extending AppleTalk networks.

"ANF's goal is to sort out these various technologies," said Garry Hornbuckle, Apple's AppleTalk evangelist and ANF's treasurer. "It's true with more methods there's now more work for the [tunneling] committee to do, but I really believe ANF can show network managers how to sort through all this stuff."

► **TunnelTalk.** Shiva will implement the Dr. Pepper specification in an upgrade to K-Star, the company's software for its FastPath 5 routers. Version 9.2, available this week, will cost \$199.

► **TREDI.** Cayman's tunnels, now called SEDI (Simple Encapsulation of DDP in IP), have been available since 1989. The new TREDI addition will let routers negotiate to reduce the interval between transmission of tunneled packets. TREDI's availability has not been announced.

► **AURP.** Since its introduction, AURP has been available only in Apple's Apple Internet Router. Farallon said it will next month begin supporting AURP via a free software upgrade for the InterRoute 5. The upgrade will be available for the StarRouter in August.

Shiva Corp. is at Northwest Park, 63 Third Ave., Burlington, Mass. 01803. Phone (617) 270-8300; fax (617) 270-8599.

Cayman Systems Inc. is at University Park at MIT, 26 Landsdowne St., Cambridge, Mass. 02139. Phone (617) 494-1999; fax (617) 349-3811.

Farallon Computing Inc. is at 2470 Mariner Square Loop, Alameda, Calif. 94501. Phone (510) 814-5100; fax (510) 814-5020. □

## Add-ons manage QM addresses

By Nathalie Welch

San Francisco — QuickMail administrators stand to benefit from a number of new products aimed at helping them manage and update address books.

Netstrategy Inc. this week at Mactivity '93 in San Jose, Calif., will unveil software that provides QuickMail users with a server-based distribution-list manager. StarNine Inc. will announce a revision of its Mail\*Link Directory Services software that gives QuickMail users a new Find interface, offering greater flexibility and more options when searching address books.

Earlier this month, The Boston Software Works Inc. announced a deal with QuickMail's publisher, CE Software Inc., to give QuickMail users easier access to other electronic-mail networks.

► **Netstrategy.** QuickMail users can maintain distribution lists of up to 250 entries on their hard disks. Netstrategy's QM-Postman, due July 15, enables lists of up to 15,000 entries to be created and maintained on the QuickMail server.

Static lists can be created by finding addresses in on-line QuickMail Mail-Centers or by typing them in manually. Users can also import entries to QM-Postman from a MailCenter

See QuickMail, Page 38

## It's time for revamped, runtime versions of 5PM

By Nathalie Welch

Cupertino, Calif. — Advanced Software Concepts this week will announce an update to its flagship 5PM front-end scripting software and a new runtime package.

5PM Pro, which will be unveiled at Mactivity '93 in San Jose, Calif., and is due in August, adds a variety of premade graphical objects to help developers create front-end inter-

faces to host applications. Prices will start at less than \$4,000.

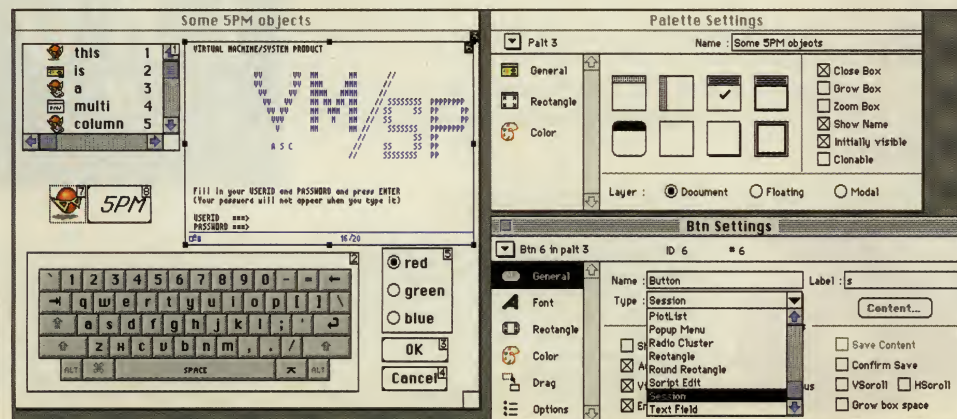
► **5PM Pro.** The package provides front-end development, script-generation and a full terminal emulator. It includes several new graphical objects, which are clickable buttons with built-in attributes that perform standard functions.

Enhancements include a list object, which offers built-in multi-

ple columns; vertical and horizontal scroll bars; drag-and-drop functionality; a pop-up menu object; a text fields object with validation and filtering; a radio cluster object, which automatically highlights a group of radio buttons; and automatic OK and cancel button objects.

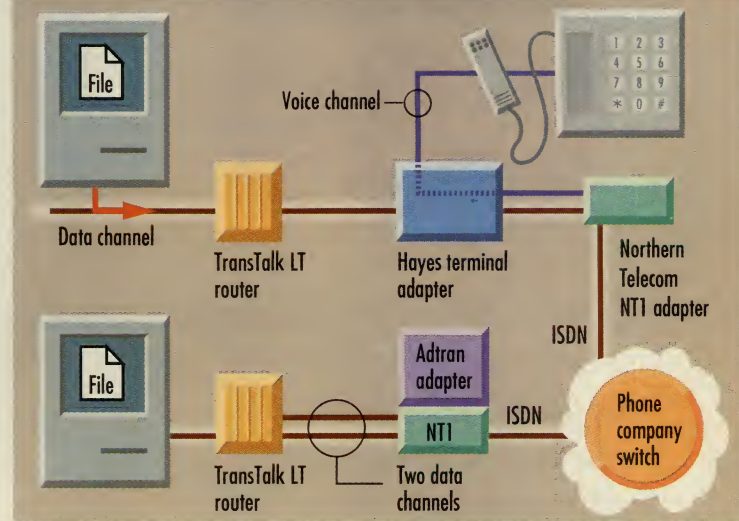
More premade objects means less scripting for the developer. ASC

See 5PM, Page 38



**Advanced Software Concepts' 5PM Pro gives developers a host of premade, graphical objects with which to construct front-end interfaces.**

## Two ways to do Mac file transfers via ISDN



## A bevy of affordable bundles makes ISDN worth considering

By April Streefer

San Jose, Calif. — Those at this week's Mactivity '93 conference who remain skeptical about the affordability of ISDN may be swayed by low-cost product bundles that will be available only at the show.

As a voice- and data-transmission standard, ISDN (Integrated Services Digital Network) has garnered widespread usage in Europe over

the past five years but has not been widely accessible or affordable in the United States.

To jump-start usage, Pacific Bell is offering a basic \$27 monthly rate for a two-channel ISDN line and is promising coverage for all of California. The company is also promoting a toll-free number, (800) 622-0735, through which users can easily initiate ISDN service. Prospective users must still research whether ISDN is available at sites served by other telephone companies.

At the show, Pacific Bell is sponsoring a booth for third-party vendors to demonstrate new wares and special bundles, including:

► **International Transware Inc.** of Mountain View, Calif., said that next month it will ship a version of its LocalTalk router that supports ISDN. Available for \$899, the TransTalk LT will be offered to Mactivity attendees in two special bundles.

► **Hayes Microcomputer Products Inc.** of Atlanta, will bundle the TransTalk LT with its ISDN System Adapter for \$1,299. Users will have to separately purchase the \$300 NT1 (Northern Telecom) adapter that plugs Hayes' box into the phone line, but they will be able to use one of ISDN's two channels for voice transmissions and the other for data.

► **Adtran Inc.** of Huntsville, Ala., is bundling its ISU 128 terminal adapter with the TransTalk LT router for \$999. The ISU 128 includes an NT1 and lets users use both 64-Kbps ISDN channels for data, which can result in an opti-

See ISDN, Page 38



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AsantéView out-of-band management software is just as powerful as the in-band software, and uses the same GUI. By plugging your network management station directly into the RS-232 port, or by using a dial-up modem, you can simultaneously manage up to 12 AsantéHubs from anywhere you have access to a telephone.

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**Buy AsantéView 2.1 for as little as \$399 and get all the features of version 2.2, a \$1299 value, when you upgrade for \$25. Offer expires 9/30/93. Contact your Certified Asanté Integrator or call Asanté at 1-800-662-9686.**

Resellers: Asanté products are available from Ingram Micro, Tech Data, Merisel and Gates/FA.

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# Trik installer presses competition

By Robert Hess

Woburn, Mass. — The installer wars will heat up this week when Trik Inc. announces its Installer Pro utility at Mactivity '93.

As with other similar products, network administrators can use Installer Pro to create "installation packages," which install and update software on network-based users' Macs. Such a process permits a faster and more-automated process than one-at-a-time installation.

Differentiating it from competing products, Trik said, Installer Pro offers two key features:

► **Installer compatibility.** While similar products require that an administrator prepare the installation package, indicating what software will be installed and where it belongs, Installer Pro can prepare packages based upon Apple Installer scripts, currently the most common installation mechanism.

Installer Pro can perform Apple



With Trik's Installer Pro, network administrators can get complete information on the contents of each installation package and keep track of all packages sent to users.

Installer's Easy Install and Custom installations.

► **Automatic execution.** An Installer Pro package is transferred from the administrator's Mac to a networked Mac running Installer Pro client software. The package is then automatically executed, requiring no user intervention. Administrators could, thereby, update a network of Macs overnight.

Trik will ship Installer Pro at Macworld Expo in August. A 50-user pack will sell for \$495 and a 100-user pack for \$695. Owners of Trik's NetDistributor Pro, which will continue to be available, may upgrade for \$99.

Trik Inc. is at 400 W. Cummings Park, Suite 2350, Woburn, Mass. 01801. Phone (617) 933-8810; fax (617) 933-8648. □

## QuickMail

From Page 36

found in the QuickMail NameServer database to create a dynamic user list that is updated using the NameServer.

Prices range from \$395 for a single QuickMail server license to \$995 for a 10-server license. QM-

Postman's automated update feature works only with QuickMail 2.6.

► **StarNine.** Mail\*Link DS Find, a free add-on to StarNine's Mail\*Link Directory Services 1.5, due later this summer starting at \$2,995, lets users access foreign addresses in "real time" via an alternate Find screen. Users can search multiple fields and by free-form names. Mail\*Link DS Find also gives QuickMail users access to Unix directories via the \$995 Unix Access Module and access to NetWare's Message Handling Service (MHS) with the \$495 MHS Access Module.

► **Boston Software.** At the Electronic Messaging '93 Exposition in Atlanta this month, The Boston Software Works announced a deal with CE Software to develop QuickMail gateways, called access units, that will plug into its InterOffice Message Exchange hub.

Expected early next year, the gateways will enable users of QuickMail to exchange messages with users of other E-mail systems.

Residing on midrange and mainframe hosts and patterned after X.400 and X.500 standards, the InterOffice Message Exchange hub will let QuickMail users send simple text, revisable word processing documents or binary attachments while providing directory synchronization, conversion of structured messages and translation of multinational character sets.

A PC LAN version of the QuickMail gateway will cost \$4,500; a midrange option is \$12,500; and a gateway to IBM PROFS is \$29,500.

InterOffice supports Banyan Vines Intelligent Messaging and Street-Talk, MCI Mail, Unix mail, HP OpenMail, DEC ALL-IN-1, IBM PROFS, as well as Microsoft Mail for PC Networks and Lotus cc:Mail.

Netstrategy Inc. is at 1071 King St. W., Suite 418, Toronto, Ontario M6K 3K2, Canada. Phone (416) 345-8985; fax (416) 345-9044.

StarNine Inc. is at 2550 Ninth St., Suite 112, Berkeley, Calif. 94710. Phone (510) 649-4949; fax (510) 649-0393.

The Boston Software Works Inc. is at 177 Milk St., Boston, Mass. 02109. Phone (617) 482-9898; fax (617) 542-7956. □

# Remote users get enhanced support from new Cisco routers

By April Streeter

Mountain View, Calif. — Cisco Systems Inc. last week stepped up support of users in remote locations with new options for wide-area routing and price cuts on some older router models.

Cisco introduced a low-cost wide-area router that supports a limited number of protocols, added two models that support ISDN (Integrated Services Digital Network) connections and dropped the price on many midlevel routers.

► **Cisco 2102, 2202.** The Cisco 2102 has a single Ethernet port and a serial port for modem connections. The new router will support only AppleTalk, Novell Inc.'s IPX (Inter-network Packet Exchange) and TCP/IP, although users can upgrade to support more LAN protocols. Wide-area protocols supported include X.25, frame relay and the Point-to-Point Protocol.

The 2102 will cost \$2,995 when it ships in the third quarter. A token-ring version, the 2202, will cost \$4,195.

► **Cisco 3104, 3204.** Two new routers have been

added to Cisco's 3000 series. The 3104 has one Ethernet, two serial ports and a Basic Rate Interface (BRI) ISDN port for \$5,795. The token-ring version, the 3204, will be \$6,995. Both support AppleTalk and will ship in the third quarter.

Effective immediately, Cisco also cut the price on the remaining 3000-series routers (see chart). The company said it will no longer sell its older IGS routers.

► **Cisco 500.** The Cisco 500-CS is the company's \$3,295 eight-port dial-in router. In addition to AppleTalk, support for Novell's IPX has been added. AppleTalk Remote Access support will be added in the next year, the company said.

Cisco Systems Inc. is at 501 E. Middlefield Road, Mountain View, Calif. 94043. Phone (415) 326-1941; fax (415) 903-7555. □

## Cisco cuts router prices

MODEL	PORTS	OLD PRICE	NEW PRICE
3101	2 Ethernet	\$5,495	\$3,995
3102	1 Ethernet/2 serial	\$5,795	\$4,295
3202	1 token-ring/2 serial	\$6,995	\$5,495
3103	1 Ethernet/1 ISDN	\$6,995	\$5,295



Netstrategy's QM-Postman lets QuickMail users create and maintain distribution lists of up to 15,000 names on the server.

## Sonic releases MAUI double-up

By Ian G. Jacobs

Sunnyvale, Calif. — Sonic Systems Inc. has applied the "two heads are better than one" adage to the transceivers that connect Macs and peripherals with built-in Ethernet to a network.

Sonic this month shipped the MAUI family of transceivers, which let users connect two Ethernet-ready Macs, printers or other devices to an EtherTalk network for \$149. MAUI stands for media access unit interface. MAU is the technical name for a transceiver.

With many vendors pricing transceivers at less than \$100, Sonic's

MAUI line reduces the per-connection cost of hooking an Ethernet device, such as a Quadra, to a network.

Because a single MAUI transceiver supplies an Ethernet link to two devices, it can also increase the number of devices a hub can support.

MAUI transceivers can connect to devices that use the industry-standard AUI (attachment unit interface) or Apple AUI. They are available for 10BASE T or thin-net Ethernet.

Sonic Systems Inc. is at 333 W. El Camino, No. 280, Sunnyvale, Calif. 94087. Phone (408) 736-1900; fax (408) 736-7228. □

## 5PM

From Page 36

said that interface development projects done with 5PM Pro can require up to 60 percent less time to complete than when using HyperCard's scripting language.

► **5PM Term.** A runtime version containing a script and front-end interpreter, 5PM Term is fully compliant with the Macintosh Communications Toolbox. It offers a macro command language to let users create log-on scripts, in addition to creating tool bars and keyboard scripting.

## ISDN

From Page 36

mum throughput of 128 Kbps.

► **Engage Communication Inc.** of Aptos, Calif., will show the just-shipped \$495 ConcordExpress file transfer software, which is hardware independent and works with ISDN as well as Switched 56 services.

When used with Engage's \$1,995 SyncRouter LT-ISDN or \$2,495 ExpressRouter ISDN, ConcordExpress can automatically connect and disconnect for ISDN-based

file transfers between two Macs. Also a terminal emulator, the software can be used with any of ASC's ComTool Box tools, which currently include IBM 3270 and IBM 5250 connectivity over TCP/IP, Systems Network Architecture and token ring, as well as DEC VT-420 connectivity. 5PM Term will start at less than \$250 per user.

ASC, a French company, recently announced a U.S. subsidiary, About Software Corp.

About Software Corp. is at 10601 S. De Anza Blvd., Suite 211, Cupertino, Calif. 95014. Phone (408) 864-0695; fax (408) 864-0694. □

Third-party vendors such as Craig Schrader of Basking Ridge, N.J. (who makes ImageNet, an ISDN file transfer solution based on CE Software Inc.'s QuickMail), said prospective users must still ensure that they are purchasing a complete solution.

"Quick and dirty prices for ISDN won't help end users," he said. "With any solution, users have to make sure they are really getting the speed, the network security and the automatic dialing/disconnect they will need." □



# The Best Way To Get To Your Printer On Ethernet Is Now Way Better.

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*New version 2.0 is the best update we've ever made to our award-winning EtherPrint, the original and best way to put your LocalTalk printers on Ethernet.*

## **1. New Security Features.**



For easier network management, EtherPrint can now be named and password protected. And our new SecurIt™ protection software lets you assign passwords and control access to any LocalTalk device attached to any EtherPrint in any zone.

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EtherPrint has always been renowned for being remarkably easy to install and use, right out of the box. Well now we've made it even easier. You can power on EtherPrint and its LocalTalk devices in any sequence for fast, error-free start up.

## **3. Connect More Devices.**

A single EtherPrint now connects two printers or other LocalTalk devices. That's double the device support for the same low retail price of \$499. EtherPrint Plus connects up to four devices for just \$599, which makes EtherPrint very well connected.

## **4. More Ethernet Options.**

All Ethernet cable types are supported, from thick and thin to 10BASE-T. But only EtherPrint offers the option of all three connectors on one model. And with our

auto-sensing technology, there are no switch settings to change when you switch cable types.

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Like all Dayna networking products, EtherPrint comes with a life-time warranty, 24-hour turn around on repairs, and free technical support from the best trained technicians in the Macintosh networking industry.



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# Dayna

Macintosh Networking Specialists



## JetForm plans Mac version of its forms, work-flow app

By Leonard Heymann

Waltham, Mass. — JetForm Corp. this summer plans to release a Macintosh version of its multiplatform forms and work-flow software package.

With JetForm for E-Mail, Mac users will be able to share mail-enabled forms with DOS and Windows clients through rules-based routing. The Mac version, due in August, will be priced at \$495 for five users and \$1,495 for 20 users.

Users create forms using the company's \$495 JetForm Design package, which is available only in a Windows version. Forms are transported by standard electronic-mail pack-

ages, including Lotus Development Corp.'s cc:Mail and Microsoft Mail.

Using predetermined rules, forms can be automatically routed through an organization. For instance, a purchase request can be directed to the appropriate department based on the value of the order. Other typical uses of JetForm for E-Mail include process control and expense reports.

The company is also planning versions of the forms product for OS/2 and Unix platforms.

JetForm Corp. is at 800 South St., Suite 305, Waltham, Mass. 02154. Phone (613) 594-3026; fax (613) 594-8886. □

## TokenPrint links AppleTalk devices

By Ian G. Jacobs

Salt Lake City — Dayna Communications Inc. this week will ship print servers for Mac users on token-ring networks who need to connect AppleTalk devices.

The \$699 TokenPrint links two printers or other daisy-chained devices to a TokenTalk network through a LocalTalk port. For \$899, TokenPrint Plus will support up to four LocalTalk printers or devices. Dayna will show both products at Mactivity '93 this week in San Jose, Calif.

A printer or a Macintosh hooked up through TokenPrint will appear in the Chooser. Both print servers include an RJ-45 and a DB-9 port to let users connect to 4- or 16-Mbps token-ring networks.

Dayna is including its SecurIt software to let users add password protection to devices hooked to the network with TokenPrint.

Dayna Communications Inc. is at 849 W. Levoe Drive, Salt Lake City, Utah 84123. Phone (801) 269-7200; fax (801) 269-7363. □

## Magnum's TFLX 5 has automatic fax switcher

By Nathalie Welch

Chatsworth, Calif. — Magnum Software Corp. this month rang up a bevy of improvements to its TFLX Macintosh-based automated phone attendant, including better sound and a built-in line switcher for fax functions.

Magnum's single-line system, priced at \$495, consists of an external box and software to provide users with Mac-based mailboxes for incoming voice messages. Automated attendant functions are built using Magnum's icon-based telephony applications builder, called Picture Programming.

TFLX 5.0 enhancements include the ability to perform 22-Kbyte analog-to-digital recordings, support for Apple's snd-format sound files, and an improved interface that lets a system operator display call activity on the screen via PICT files or files created with a graphics application.

As with previous versions, the TFLX system can dial out in

response to touch tones, perform fax on demand and run scripts via separately purchased modules.

Enhancements to TFLX's \$415 scripting module enable users to create scripts that contain If/Then statements and can check a database of information to see if the appropriate code, such as a correct customer number, is entered via touch tone before allowing the caller further access.

The \$80 Fax on Demand module

## MacWire sorts wire-service news

By April Streeter

Salt Lake City — Mainstream Data Inc. this month delivered software that lets a Macintosh receive and sort news from national wire services.

Aimed at newspapers and businesses, MacWire is \$995 software that allows a Mac to replace the printer or other apparatus that normally receives news feeds. The software supports any news service using the American Newspaper Publishers Association's Bulletin 1312 format, including Associated Press, United Press International and Business Wire.

Unlike Newscast, Mainstream's wire-service product that requires an FM- or satellite-based receiver, MacWire works with any Mac with a modem. While Newscast is designed to receive and sort multiple wires, each MacWire Mac can receive a single service. Macs with two serial ports can receive two services but must have two copies of the software running.

Users can set up as many as 32 categories for sorting incoming news and further narrow searches with up to 256 keywords.

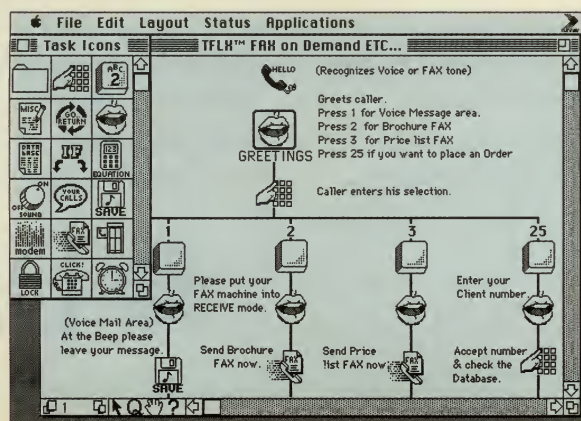
MacWire will support AppleSearch text-retrieval software when it is released later this year by Apple. Users will then be able to index and archive wire news.

Mainstream Data Inc. is at 420 Chipeta Way, Salt Lake City, Utah 84108. Phone (801) 584-2800; fax (801) 584-2831. □

now includes a software-based line switcher, replacing external hardware switchers previously required.

The upgrade also provides developers of more-complex TFLX systems with direct serial-port control, access to more system-level commands and the ability to track outbound dialing attempts.

Magnum Software Corp. is at 21115 Devonshire St., Suite 337, Chatsworth, Calif. 91311. Phone (818) 701-5051; fax (818) 701-5459. □



**Magnum's TFLX 5.0 telephony application builder now has a built-in line switcher that lets users run Fax on Demand applications without requiring external switching devices.**

## Gateways

B R I E F S



### Motorola lowers Embarc delivery time, raises fee

Boynton Beach, Fla. — Motorola Inc. is speeding delivery time of wireless mail messages and eliminating some per-message charges but bumping up the monthly price for its basic Embarc service.

Beginning July 10, PowerBook users of Motorola's \$395 NewsStream pager and software will be charged \$18 per month to receive Embarc messaging services. Included in that fee, which is \$3 more than subscribers pay now, is a standard message delivery time of one hour. Standard delivery was previously three hours.

Users will also get 30 minutes of free connection time to the Embarc switch, up from 20 minutes. Mail is received through the pager, but users who want to send mail or retrieve mail stored when they were out of range must dial in to the switch. Connect time costs 20 cents per minute.

Motorola Inc.'s Embarc group is at 1500 N.W. 22nd Ave., Boynton Beach, Fla. 33426. Phone (407) 364-2000; fax (407) 364-2519.

### Global Village unbundles GlobalFax software

Mountain View, Calif. — PowerBook Duo users relying on the internal Express modem now have an alternative to Apple's fax package, after Global Village Communication Inc. this month unbundled its GlobalFax software.

GlobalFax Duo, priced at \$129, is identical to the package Global Village offers with its \$499 TelePort/Gold and PowerPort/Gold fax modems. The software offers customizable address books and the ability to send faxes to groups. An optical character recognition option is available for \$49.

Global Village Communication Inc. is at 685 E. Middlefield Road, Building B, Mountain View, Calif. 94043. Phone (415) 390-8218; fax (415) 390-8361.

### Information Radio puts new face on AlphaPage

Cleveland — Information Radio Technology Inc. this month revamped the interface of its paging software and added password protection.

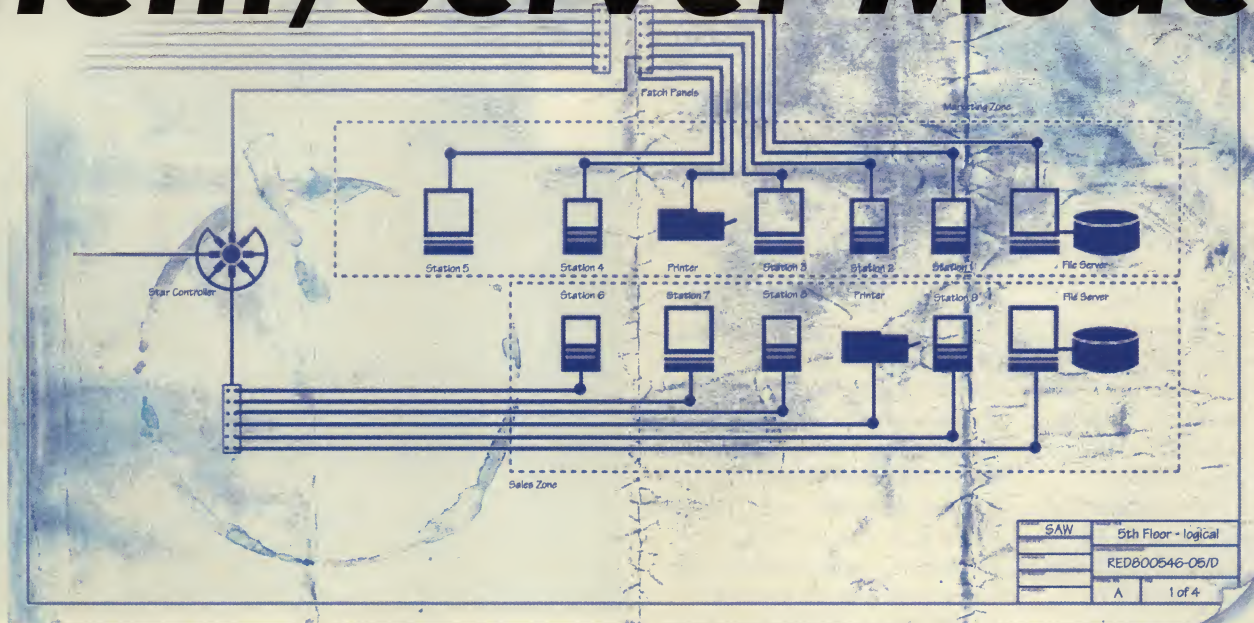
The \$139 AlphaPage consists of a database directory and interface software that let Mac users with modems format short text messages and send them to paging services, which forward them to alphanumeric pagers. The program handles connections to an unlimited number of third-party paging services.

Version 6.0 includes password protection to allow only authorized users access to editing controls and setup options. Users can search for pager addresses by name, designated group or pager number. Upgrades from Version 5.0 are \$53.

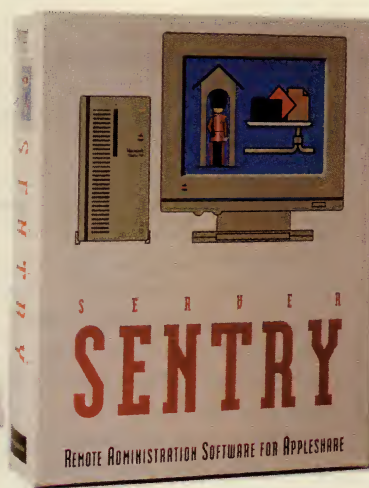
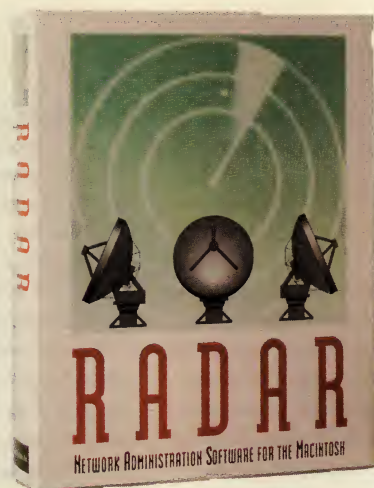
Information Radio Technology Inc. is at 635 E. 185th St., Cleveland, Ohio 44119. Phone (216) 531-1313 or (800) 228-8998; fax (216) 531-8383.



# ***This Is Your Mac Client/Server Model...***



# ***...And This Is How You Manage It:***



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## **Client/Server Computing**

Client/Server computing is the network topology of choice for the 90's. AppleShare servers running on the new, powerful 68040 Macs and hundreds of client Macs accessing information from these servers. Sounds great, huh? Only one problem though: How do you manage all the AppleShare servers and client Macs on your network?

## **Server Sentry/Radar Solution**

Use Server Sentry to remotely manage and administrate one or many AppleShare servers. Use Radar to remotely manage and administrate hundreds, or even thousands, of client Macs. Server Sentry and Radar combine to form the only Mac Client/Server Remote Management & Administration solution. And best of all, they cost less than \$500 each.

## **Rebate Offer**

For a limited time, Sonic will make it worth your while to try our solution: buy both Server Sentry and Radar and get a \$50 Rebate direct from Sonic. Please call us for more details.

## **Free Demo**

Call now for your free demo of Server Sentry, Radar or both.

All Sonic products are available at MacConnection and MacWarehouse. Resellers please call Ingram Micro or Merisel.



To order, or for more information, call:

**1-800-535-0725**

***Sonic Systems, Inc.***



## News Analysis

# Pointing finger, WAIS at Internet addresses

Directory services aid in the pursuit of Internet addresses, but a unified source has yet to be developed.

By Jeff Ubois

With the explosion of on-line communications, more and more people are reaching for the Internet instead of the telephone. But finding an unfamiliar Internet address is hardly as easy as dialing "411."

Instead, locating Internet electronic-mail addresses requires ingenuity and some specialized knowledge — in fact, it's often easiest to get someone's address by telephone. But when telephone contact isn't practical, the growing number of Internet directory services may provide an answer.

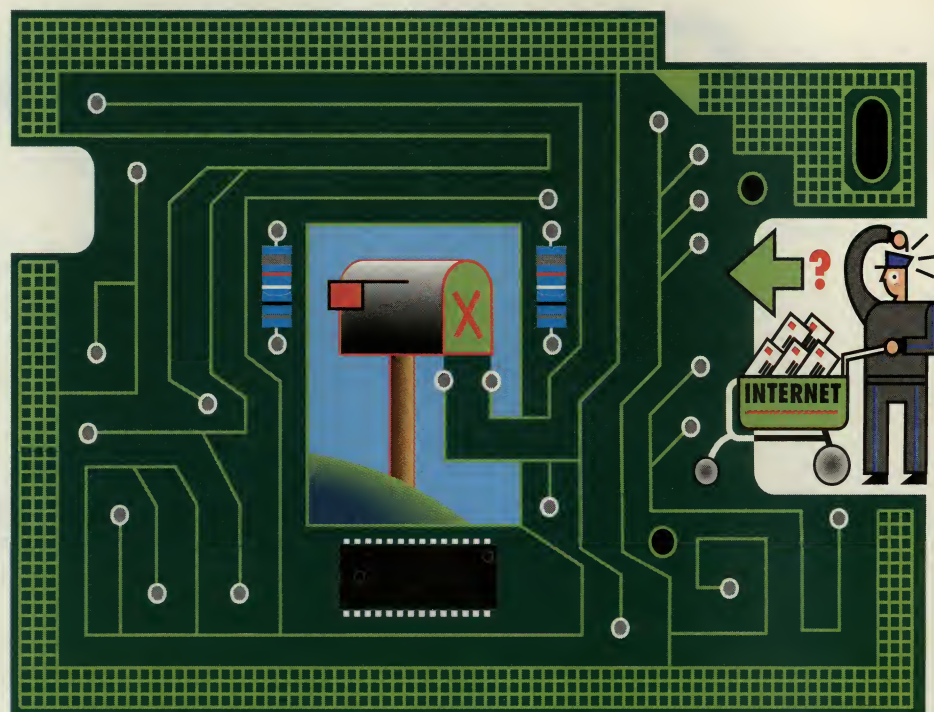
## Address quest

Wade Williams, a network support specialist in the division of university computing at Auburn (Ala.) University, uses a number of directory

services to help users find addresses on the Internet.

"It's not something we get calls on every single day, but it keeps coming up, and it would be nice to eliminate as an issue," Williams said. "I'd like to see one standard, easily accessible through a mature interface, preferably over TCP/IP and/or SLIP (Serial Line Internet Protocol) — a comprehensive standard would be worth paying for."

Increasingly, Williams is using Internet services such as Gopher and Wide Area Information Servers (WAIS) to search multiple directories simultaneously, and he said the Turbo Gopher and WAIS Station Clients for the Mac make those searches even easier. "We find the Gopher is enormously helpful in locating people and informa-



ILLUSTRATIONS BY DAVE EMBER

tion," Williams said, "especially the phone books, X.500 and the WHOIS searches."

## Opening better gateways

The directory issue is becoming more urgent for LAN users whose first contact with the Internet comes through gateways for E-mail pack-

ages such as CE Software Inc.'s QuickMail, Lotus Development Corp.'s cc:Mail and Microsoft Mail.

Other products that provide gateways for LAN E-mail users include TCP/Connect II and the Dispatcher line from InterCon Systems Corp. of Herndon, Va.; the

See Directories, Page 44

## Where to look before you pick up the phone

There are a myriad of ways to find Internet addresses on-line. All it takes is a little time and a lot of patience.

► **Gopher.** Gopher offers a consistent user interface and gateways into many of the major on-line white pages and other address databases, including most of the ones listed below. Gopher may be running on the Unix machine you use to connect to the Internet; try typing Gopher when you are logged on. If Gopher is not running locally, telnet to `ux1.cso.uiuc.edu` or `consultant.micro.umn.edu` and log on as Gopher.

► **WAIS.** Wide Area Information Servers provide a convenient way to store and search data across the Internet. A number of the databases referenced here, including X.500 databases, and the databases and services at `whois.internic.net` are searchable using WAIS. WAIS may be running on the Unix machine you use to connect to the Internet; try typing "swais" when you are logged on. If WAIS is not running locally, telnet to `quake.think.com` or `nnsf.nsf.net` and log on as wais.

► **Netfind.** Netfind is a facility that checks multiple X.500 directories. Telnet to the Netfind servers at `bruno.cs.colorado.edu` (University of Colorado, Boulder), `mudhoney.micro.umn.edu` (University of Minnesota, Minneapolis), `netfind.oc.com` (OpenConnect Systems, Dallas) or `redmont.cis.uab.edu` (University of

Alabama at Birmingham) and follow the prompts.

► **Finger.** Finger is a Unix program that can be used to find a log-on name and other information if you know the host computer. It doesn't always work — the remote machine may refuse the finger request. But it is easy to use: Just type "finger thenameyouwant@host". If your target has an account on the host machine, and the host allows finger, you'll get the user names you are after and the last time they logged on.

► **Fred.** Fred allows simple searches of X.500 white pages. Telnet to `wp.psi.com` and log on as fred. Fred can also be accessed via electronic mail. Send mail to `whitepages-`

`@wp.psi.com` with "whois name, organization" in the subject line.

► **WHOIS.** WHOIS is both a database and a command. The databases and services at `whois.internic.net` or `rs.internic.net` are accessible via telnet or E-mail, and they are also searchable by Gopher and WAIS. They can also be searched using the whois command, which is supported on many Unix systems. Send mail to `mailserv-@internic.net` with the word "help" in the subject line to get more details. Many other organizations maintain directories searchable with the whois command; other WHOIS servers are also accessible via Gopher and WAIS.

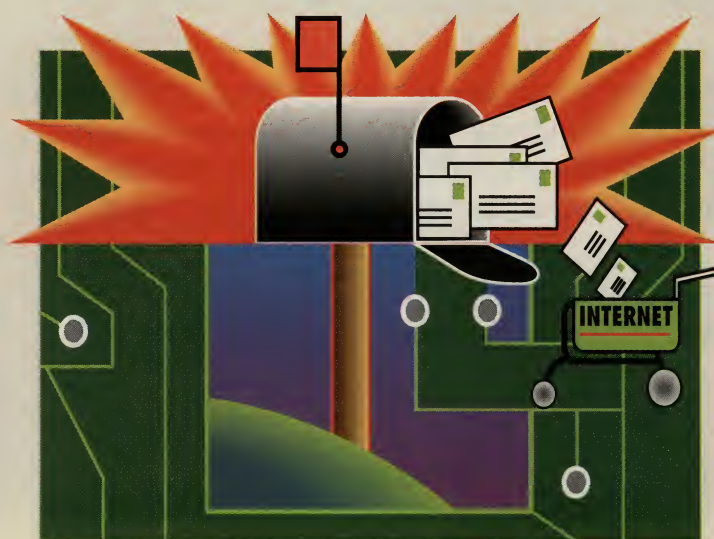
► **Paradise.** Paradise is a large X.500 directory for the Internet. Start-

ed at University College in London, Paradise servers are now located around the world and are searchable via WAIS and Gopher.

► **Usenet addresses server.** The addresses of persons who post to Usenet are automatically added to a large database at the Massachusetts Institute of Technology in Cambridge, Mass., which can be queried by sending mail to `mail-server@rtfm.mit.edu` with "send usenet-addresses/name" in the message body, where "name" contains the words you want to search for, usually last and first names, and possible host names.

► **Postmaster.** Many Internet-connected systems accept mail to `postmaster@host`. If you know a person's organization or host name, asking the postmaster for an address often works.

► **More help.** The Frequently Asked Questions file, "How to find people's E-mail addresses," is a guide to finding E-mail addresses that is posted periodically in several Usenet groups and archived at `rtfm.mit.edu` in `/pub/usenet/news.answers` as `finding-addresses`. Vector Directory Services Inc. of Lexington, Mass., sells yearly subscriptions to a semiannual directory of corporate E-mail systems for \$169. Vector offer subscribers a help-desk service, which will locate corporate E-mail systems and addresses. — By Jeff Ubois





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## Directories

From Page 42

Mail\*Link product line from StarNine Technologies Inc. of Berkeley, Calif.; and the EMX series from SoftSwitch Inc. of Wayne, Pa. The Mail\*Link product line even allows Mac users to search Unix, Novell Message Handling Service (MHS) and X.500 directories.

While these gateways don't offer all the functions of a "real" Internet connection like Williams has, they can be used to send

mail to Internet directory services (see story, Page 42).

### Waiting for directory services

Strangely, comprehensive directory services are probably years away. It seems simple enough: Create a single database of all the Internet, X.400, MHS and other addresses and publish it to the world. But, in fact, it's a knotty problem.

Standards are not well-developed. "The world hasn't settled on a single addressing for-

mat," said Ted Myer, co-chairman of the North American Directory Forum and a principal with Rapport Communication, a Washington, D.C.-based consultancy.

"We are in the early stages of building a commercial X.500 service that will link together existing E-mail directories," Myer said. The NADF's X.500 directory is already operating as a pilot project, but it is still years from completion.

Another problem that has plagued most

directory services is ease of use. "Most proposed directory services solutions have been unwieldy enough that people haven't wanted to use them," said Bob Stratton, a software engineer at InterCon. "In the real world people aren't leaping to X.500. It has been far too much of an administrative burden for smaller organizations to deal with."

Users will also have to wait for good client software. "Given E-mail connectivity to the Internet, there are some mail-based directory

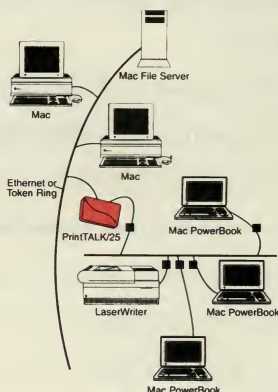


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	SPTLK25T	4/16Mb Token Ring DB9 and RJ45	AppleTalk	DIN8 LocalTalk	Up to 8 LocalTalk printers/devices	512Kb RAM, 256Kb ROM	\$1095
PrintTALK/200 available 02/93	SPTLK200E/AN	Ethernet 10BaseT and BNC Thnnet	AppleTalk/Novell	DIN8 LocalTalk, 1 parallel 1 Uniprot	Up to 8 LocalTalk printers/devices, 1 parallel PostScript, 1 parallel or serial PostScript	2Mb RAM, 512Kb Flash ROM	\$1295
	SPTLK200T/AN	4/16Mb Token Ring DB9 and RJ45	AppleTalk/Novell	DIN8 LocalTalk, 1 parallel 1 Uniprot	Up to 8 LocalTalk printers/devices, 1 parallel PostScript, 1 parallel or serial PostScript	2Mb RAM, 512Kb Flash ROM	\$1495

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Perhaps most important, there is an economic problem: Who will pay to create directories, and how could a directory provider collect revenues from users?

services the users can access," Stratton said, "but those are not the same thing as having friendly interactive directory services right on the Mac."

Perhaps most important, there is an economic problem: Who will pay to create directories, and how could a directory provider collect revenues from users?

Part of the solution may be government funding. The National Science Foundation recently awarded a \$12 million contract to AT&T Co.; Network Solutions Inc. of Herndon, Va.; and General Atomics of San Diego for operation of the Internet Network Information Center, which provides some directory services (see story, Page 42). But even the InterNIC won't list everyone.

### Knowbots and agents

Another approach to finding addresses is to create software agents capable of searching multiple directories given a single search request. For example, the Knowbot Information Service developed by the Corporation for National Research Initiatives of Reston, Va., can search across WHOIS and X.500 databases, and directories of commercial E-mail services such as MCI Mail.

"As more and more short-term and private solutions come on-line, the whole directory problem gets more and more difficult," said John Garrett, director of information resources for the Corporation for National Research Initiatives. "One dilemma is that there is no ready way for anybody to get their costs reimbursed for creating a comprehensive addressing service."

Knowbots are good for more than just directory services — they can be used to search for virtually any type of information across a given set of databases.

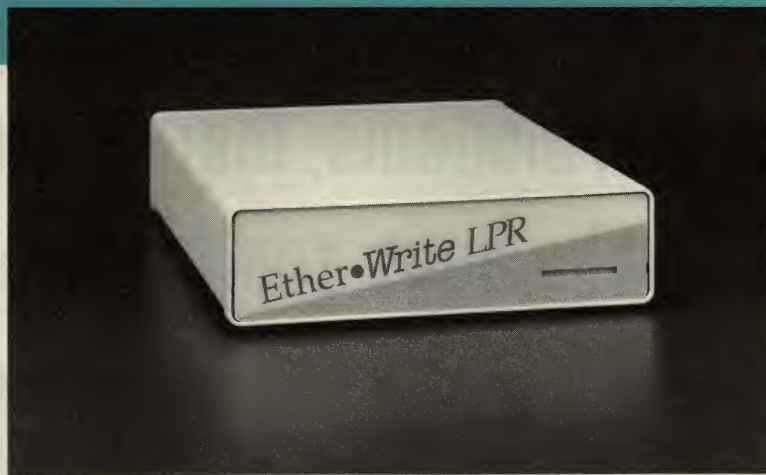
"Knowbots can integrate disparate systems at a higher level," Garrett said. "Knowbots allow people to search diverse systems without having to know all the characteristics of those systems."

But the Knowbot at CNRI doesn't yet search everything.

"Don't expect magic," Garrett said. "Don't expect your friendly knowbotic operator to be there at dot-555-1212 until you can find a way to pay for these kinds of services." □



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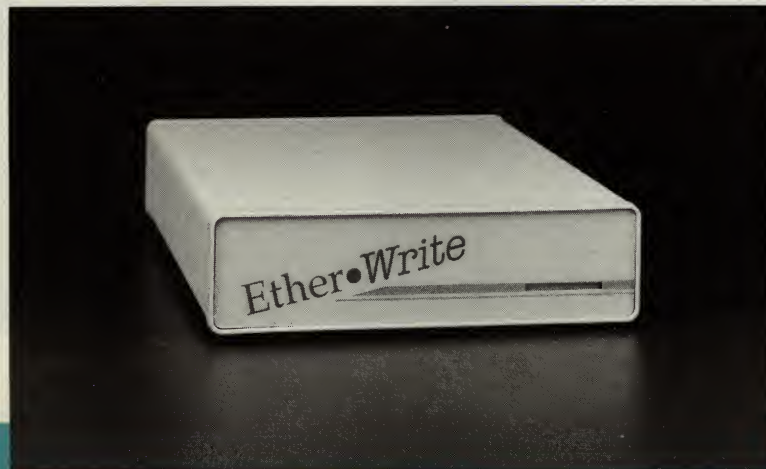


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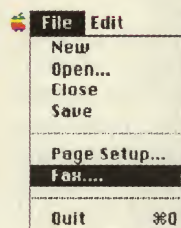
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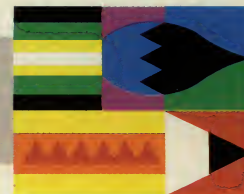


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# Radius card raises video quality level

*VideoVision Studio outputs 60 fields/sec.*

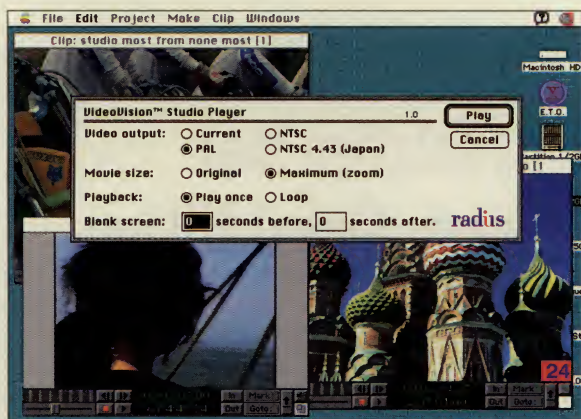
By Neil McManus

San Jose, Calif. — Radius Inc. this month released VideoVision Studio, the first QuickTime-based video-production system to support full-screen, full-motion video at 60 fields per second.

VideoVision Studio, priced at \$4,499, is based on Radius' existing VideoVision system. The new system, however, uses an LSI Logic chip set to capture, display and output video at a rate of 30 frames and 60 fields per second.

Studio captures video to disk at 640 by 480 pixels for NTSC and 768 by 576 pixels for PAL (a European standard) through JPEG (Joint Photographic Experts Group) compression.

Like VideoVision, the new Studio system consists of a NuBus card and a connector panel. The card delivers 24-bit graphics to 13-inch displays and eight-bit graphics for monitors as large as 21 inches, as well as real-time resizing of live video in a window.



Radius' VideoVision Studio accelerates QuickTime playback in VideoFusion 1.5, a QuickTime special-effects program that comes bundled with the system.

The connector panel features input ports for two audio-video sources and output ports for one audio-video source. A programmable serial port controls external devices. The system also offers a SMPTE timecode reader, as well as an R-Bus for future expansion daughtercards.

Skip Sweeney, owner of Video Free America of San Francisco, said his company used a beta version of Studio to create a short music video. "The quality of the video is excellent because the Radius board outputs 60 fields," he said. "You don't see the stutter that you get with other Mac boards."

VideoVision Studio comes with Adobe Premiere 2.0, a \$695 digital video editing program, and VideoFusion Inc.'s \$895 VideoFusion 1.5, a QuickTime special-effects program.

VideoVision users can upgrade to VideoVision Studio for \$1,999.

Radius Inc. is at 1710 Fortune Drive, San Jose, Calif. 95131. Phone (408) 434-1010; fax (408) 434-9575. □

# QMS aims ColorScript Laser 1000 at high-toned business market

By Bob Weibel

QMS Inc.'s ColorScript Laser 1000, which will ship in August for \$12,499 — less than half the price of its closest color laser competitor — is being touted as the first desktop color laser printer.

QMS of Mobile, Ala., is aiming the new 300-dpi, four-color laser device squarely at the large business-office market, which is still relatively untapped for color printing. However, the printer includes color-matching features normally associated with graphic arts, and its price is more in line with what desktop publishers and design studios have been willing to pay for color printers.

Despite the Laser 1000's low price compared with other color laser printers, analysts question whether business users are ready to pay a premium price for 300-dpi, plain-paper desktop color. Most business offices

stall on price and are willing to pay only between \$1,000 and \$3,000 for color, according to research of business users by Blackstone Research Associates of Uxbridge, Mass.

"People's frame of reference in the business market is monochrome printing; hence they assume that color printers should be priced relative to 8-page-per-minute monochrome printers," said Michael Zeiss, president of Blackstone and editor of the Color Business Report, also in Uxbridge.

Blackstone's research on near-term plans to buy color printers indicated that 37 percent of business users intended to purchase color inkjet printers, 26 percent color dot-matrix printers and 15 percent thermal-wax color printers, with color laser printers squeezed into the 10 percent "other" category.

"A real asset for a color laser  
See Laser 1000, Page 56

## News Analysis

# MiniCad+ 4v3 handles more 3-D formats

*Graphsoft also plans modular version*

By April Streeter

Columbia, Md. — Diehl Graphsoft Inc. this month shipped an upgrade to MiniCad+ and mapped out its plans to offer add-ons for a future modular version of the program.

MiniCad+ 4v3, available for \$795, can now import and export 3-D DXF (Drawing Interchange File) and RIB (RenderMan Interface Bytestream) files. New tools let users trim arcs and ovals to edit them, select 3-D objects' axes to rotate them, and clip or add surfaces to polylines.

Graphsoft said it is also working on a complete rewrite of MiniCad+ for Version 5, which will be released in early 1994. Version 5 will be built using Bedrock, Symantec Corp.'s cross-platform development framework, and will be written in C++ instead of Pascal.

Converting to C++, according to Graphsoft, will result in a faster application and allow MiniCad+ to support add-in modules called overlays. Overlays will enable users to use an uncluttered interface but still access specialized tools as needed,

the company said. Users will be able to flip between different overlays via the File menu. Version 5 will ship with Mechanical, Architectural and Space Planning overlays.

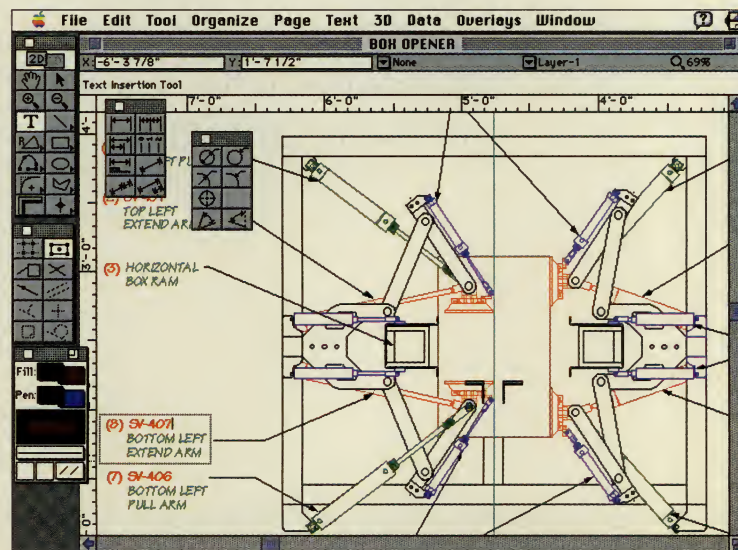
Graphsoft said that late this year it expects to release a development kit that helps third parties write their own add-ons.

The price for Version 5 will remain \$795. A new Windows version will ship at the same time.

To woo users of Claris Corp.'s ClarisCAD to MiniCad+ in the meantime, Graphsoft is offering the program to registered users for \$495. A utility for converting files to MiniCad+ format is included.

Upgrades to MiniCad+ 4v3 are free to registered users of MiniCad+.

Diehl Graphsoft Inc. is at 10270 Old Columbia Road, Suite 100, Columbia, Md. 21046. Phone (410) 290-5114; fax (410) 290-8050. □



Tools in MiniCad+ 4v3 let users more fully control manipulation of 3-D objects and allow import and export of 3-D files to more CAD and rendering programs.

By David M. Cole

New Orleans — The Mac made headlines at this month's Nexpo '93 here as vendors such as Linotype-Hell Co. and Digital Technology International showed off their editorial systems to 11,700 attendees of the newspaper trade show.

Companies with Mac-related announcements included:

► The Associated Press introduced AP PhotoLink, a \$6,750 portable film-scanning station that integrates custom software with the PowerBook 165c, and CoolScan, a compact LED-based 35mm film scanner from Nikon Inc. (see MacWEEK, Jan. 25). The 15-pound package will be available in August, AP said.

The news cooperative will offer the system as an integrated package or in a software-only configuration priced at \$1,495; site licenses will be

available for \$3,500. Besides CoolScan, the software supports other scanners that have Adobe PhotoShop plug-ins.

The custom package also includes a custom docking unit that connects the PowerBook to the CoolScan.

The docking station contains the CoolScan, a universal power supply and a battery pack. It also has an expansion slot that will accept PCMCIA cards for digital cameras.

The software permits simultaneous scanning and transmission via JPEG (Joint Photographic Experts Group) image compression, and it adds support for ANPA/IPTC headers as well as digital cameras. AP said it will sell a cellular adapter for the system.

► Digital Technology International said it will set up its editorial  
See Nexpo, Page 50



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Shown above is PhotoSpeed Pro. Contents of PhotoSpeed varies.



# Microtek ScanMaker increases res

*Color flatbed scans at 1,200 by 600 dpi*

By Matthew Rothenberg

Torrance, Calif. — Microtek Lab Inc. this week focuses on the finer points of color scanning when it adds a 1,200-by-600-dpi model to its ScanMaker flatbed line.

The ScanMaker IIER, priced at \$1,799, is based on the Paragon 1200 from Mustek Inc. of Irvine, Calif. Mustek said it will ship its version of the device by fall for \$1,995 (see MacWEEK, May 31).

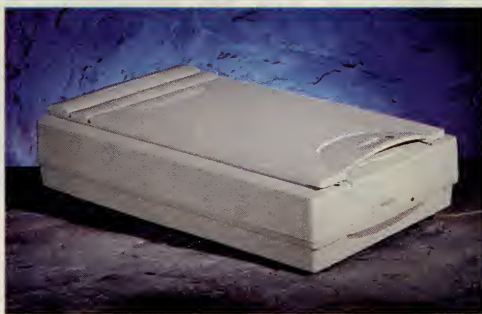
The CCD (charge-coupled device) scanner, which handles images measuring as large as 8.5 by 13.5 inches, captures eight bits

each of RGB (red, green, blue) information per pixel in three passes and scans eight-bit gray-scale or monochrome images in a single pass.

The scanner uses Microtek's interpolation algorithms to increase the apparent resolution of scans to as much as 2,400 by 2,400 dpi. The ScanMaker IIER can capture images at a rate of 3.6 milliseconds per line.

The ScanMaker IIER ships with a SCSI interface and cable.

The scanner's built-in image controls for Macintosh users include 12 halftone patterns and 14 levels



The ScanMaker IIER has an optical resolution of 1,200 by 600 dpi. The scanner's interpolation algorithms can increase its resolution to 2,400 by 2,400 dpi.

each of brightness and contrast.

The device is bundled with the complete version of Adobe Photoshop 2.5, Adobe Systems Inc.'s \$895 image-editing program. The ScanMaker IIER also comes with a Photoshop plug-in that provides a color prescan, automatic contrast controls and precalibrated color settings that conform to a range of popular monitors.

For users of IBM PCs and compatibles, the scanner supports Twain, an application programming interface standard that provides direct software links to compatible input devices.

Microtek also offers the \$949 ScanMaker II and the \$1,699 ScanMaker IIXE. Both models scan 24-bit color in three passes at an optical resolution of 600 by 300 dpi, which can be increased to 1,200 by 1,200 dpi via interpolation. Microtek said the release of the ScanMaker IIER would probably affect sales of the older ScanMaker II models.

Microtek Lab Inc. is at 680 Knox St., Torrance, Calif. 90502. Phone (213) 321-2121; fax (310) 538-1193. □

# Photoshop plug-in accelerates the manipulation of DCS files

By Carolyn Said

Palatine, Ill. — Total Integration Inc. has shipped a plug-in for Adobe Photoshop that speeds manipulation of files saved in Desktop Color Separation format.

FASTedit/DCS is a \$239 software accelerator that lets users preview, select and open portions of a Desktop Color Separation (DCS) file created in Photoshop or another application. After a user completes editing the portions, the plug-in appends the edited area back into the original DCS file.

DCS, which is widely used for generating color separations on the Mac, saves each image as five files: one Encapsulated PostScript document for each CMYK (cyan, magenta, yellow, black) separation and a low-resolution PICT preview file.

FASTedit/DCS features a high-detail preview image; an indicator showing the size of the edit area in megabytes; user-definable, numerical edit area indicators; and a large preview of the image.

Total Integration said the plug-in speeds editing DCS files by as much as 30 percent.

The company also offers \$239 plug-ins that accelerate editing of Scitex CT documents or RGB (red, green, blue) and CMYK (cyan, magenta, yellow, black) TIFF files.

Total Integration Inc. is at 155 E. Wood St., Palatine, Ill. 60067. Phone (708) 776-2377; fax (708) 776-2378. □

# Video from CSS tells all about fonts

San Antonio — Color Systems Support Group Inc. this month shipped a video designed to teach users everything they need to know about fonts on the Mac.

Created in Macromedia Director



The Macintosh Fonts video includes a section explaining the differences between Type 1 and TrueType fonts.

and Strata Inc.'s StrataVision 3d, the \$145 video explains the differences among Type 1, TrueType and bit-mapped fonts as well as how to install fonts under systems 6 and 7.

The video also includes segments on using Adobe Type Manager and Fifth Generation Systems Inc.'s Suitcase.

The company next month will ship the first video in a nine-part series about Adobe Photoshop.

Forthcoming series will cover QuarkXPress, Aldus PageMaker, Adobe Illustrator and other popular programs.

Color Systems Support Group Inc. is at 11971 Starcrest, San Antonio, Texas 78247. Phone (210) 496-0999; fax (210) 496-1070. □

# Sense CD-ROMs provide royalty-free photos

By Ian G. Jacobs

Beverly Hills, Calif. — Sense Interactive Corp. this week shipped the first four CD-ROMs of royalty-free photographs in its new MediaRights series.

The company introduced the four \$69.95 discs, which are called Earth, Sky, Water and Power, at Digital World 93 here. Each features 100 PICT files of objects such as clouds, windmills, waves and sand tracks.

The images come in both eight- and 24-bit-color versions with a resolution of 72 dpi.

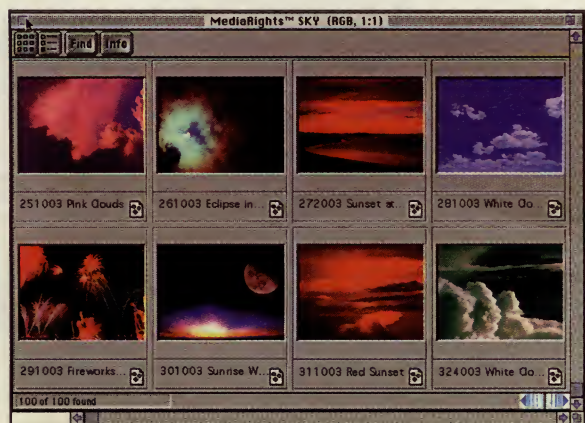
The images can be used for any purpose except advertising, the company said.

The MediaRights discs ship with a limited version of Adobe Photo-

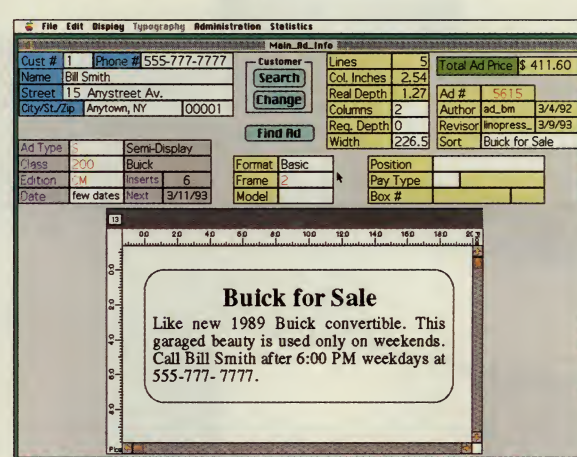
shop image-editing software, as well as Impace Systems Corp.'s Kudo Image Browser, an image cataloger for searching and viewing the photos (see MacWEEK, May 31). Kudo's thumbnails of the images

can be exported to page-layout programs.

Sense Interactive Corp. is at 1412 W. Alabama, Houston, Texas 77006. Phone (713) 523-5757; fax (713) 523-3057. □



Sense Interactive's MediaRights CD-ROMs allow designers to use its eight- and 24-bit-color PICT images in any way except for advertising.



LinoPress-Hell's LinoPress advertising system lets users build classified or display ads.

## Nexpo

From Page 48

pagination system for regional editions of The Los Angeles Times.

The paper will reportedly install more than 10 Quadra 950 machines running DTI's PagePlanner and PageSpeed software. Sources said reporters will continue to use System Integrator Coyote text-editing terminals to write stories, and the Macs will also run System Integrators Inc.'s SIIMAC software to gain access to the SII system's files.

► **LinoPress-Hell**, which has been marketing its LinoPress Macintosh-based editorial system for the past year, showed its LinoPress advertising system.

The new system lets users build classified or display ads and pass them along to Multi-Ad Services Inc.'s Multi-Ad Creator via Apple events and publish and subscribe.

The software prompts the phone-room ad taker for account and classification information, and it handles simple credit-card checks. It also prompts the ad taker to get specific information based on the classification of the ad. To complete a car ad, for example, the ad taker would be prompted to ask the caller

about the car's make, model, year, mileage and accessories.

► **Monotype Inc.** said it has taken over service and support of Mycro-Comp, an electronic publishing system for small to medium-size newspapers. The product's developer, Mycro-Tek of Wichita, Kan., declared bankruptcy in February.

The Associated Press is at 50 Rockefeller Plaza, New York, N.Y. 10020-1666. Phone (212) 621-1796.

Digital Technology International is at 500 West 1200 South, Orem, Utah 84058-6716. Phone (801) 226-2984; fax (801) 226-8438.

LinoPress-Hell Co. is at 425 Oser Ave., Hauppauge, N.Y. 11788-3607. Phone (516) 434-2000; fax (516) 434-2748.

Monotype Inc. is at 2100 Golf Road, Rolling Meadows, Ill. 60008-4220. Phone (708) 427-8800; fax (708) 427-8860.

Nikon Inc. is at 1300 Walt Whitman Road, Melville, N.Y. 11747-3064. Phone (516) 547-4355 or (800) 526-4566; fax (516) 547-0305. □

David M. Cole is a consultant and editor of The Cole Papers, a newsletter based in San Francisco.





# For Just \$1499, PaintBoard Turbo Draws 24-Bit Images So Fast It Will Make Your Head Spin.

RasterOps® presents PaintBoard™ Turbo, a price/performance revolution in accelerated 24-bit display adapters. The card features custom integrated circuits that work 16 times faster than standard QuickDraw\*. And its 9-bit digital-to-analog converter makes it ideal for sophisticated color management on the Macintosh®. To top it all off, PaintBoard Turbo supports resolutions up to 1024 x 768 on 20" monitors, and offers hard-

ware pan and zoom features so you can enlarge images up to 16 times. With the most advanced true color products at the best prices, it's no wonder RasterOps is turning a lot of heads. Visit your local reseller to test drive PaintBoard Turbo or, for more information, simply call us today at **1-800-SAY-COLOR.**

**RASTEROPS®**  
THE ART & SCIENCE OF COLOR™



## Case Study

# Wisconsin firm gives design on Macs northern exposure

*Design company proves that high tech and high quality don't have to originate in a high-rent area.*

By Mitzi Waltz

Design North Inc.'s bucolic Racine, Wis., setting probably belies the fact that this 27-person design company grapples daily with some of the thorniest issues facing graphic designers today: how to get all the Mac devices to deliver consistent color and how to prevent those devices from choking on the enormous files that get transferred constantly from one designer to another.

Established 32 years ago by founder and President Lee Sucharda, Design North primarily serves markets in Chicago and Minneapolis, both equidistant from the farm buildings turned into a high-tech graphics shop.

Each Design North employee uses a Mac, and the company uses its own in-house photo lab and pre-press shop to create package designs, brochures and annual reports.

"Our typical client would be a larger company looking to repackage a product," said Jon Dommissie, marketing manager. "They typically ask for several versions and concepts. Many times their advertising, publicity and sales-promotion plans are already scheduled, so they give us a much too short time frame—three months [rather than] six months, for example."

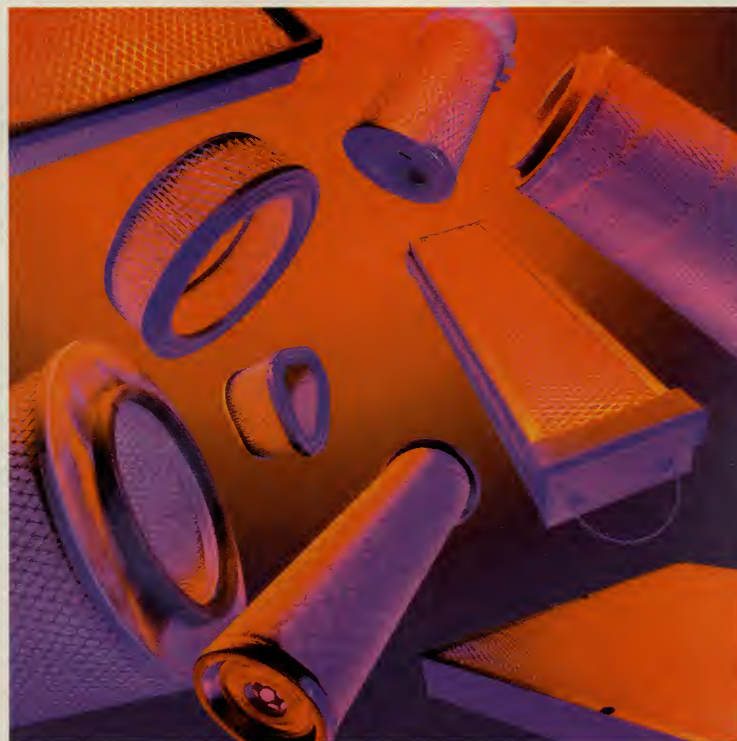
## Leveraging on new ideas

Joe Prinz, Design North vice president, said that's where new technologies can give the company an edge by improving output and

speeding production. "One of the issues we're currently addressing is device-independent color calibration," Prinz said. "It's very important to us as a design firm that color is consistent all across the process, from the monitor to the final color-separation films. We're currently gamma-testing QuarkXPress 3.2, which includes the EfiColor color profiles [from Electronics for Imaging Inc.]. It's an exciting technology, although right now they're adding the profiles at a manufacturer's level, which really isn't enough. The problem is, you could have two QMS Model 30 color printers, and each one will have its own characteristics."

Prinz said he has looked at the built-in color matching of Apple's ColorSync system but found its device profiles too limited. Kodak's Color Matching System was also nixed after he tested it with QMS printers on-site. "Frankly, we didn't have a lot of luck with it," he said. "EFI is addressing the issue across platforms and devices, and that's the better approach."

Of course, speed and processing power are always the prime concerns when manipulating large graphics files. "Even as our designs become more complex, our clients still expect us to provide them with variations as quickly as possible," Prinz said. Among his strategies: running Novell NetWare on Design North's main file server and upgrading users to Quadra 800 from Mac IIx



To create this image on a catalog cover for a client with a tight budget, Design North cut costs by shooting with 35mm film, making a Photo CD and assembling the shot on a Quadra. Scanning charges were reduced from \$50 per scan to less than \$3 per scan.



General Mills commissioned Design North to create material for its new cereal line, retaining some elements of the original, such as the block-lettered logo and health-driven copy. This package was produced from its in-house photo studio, which is experimenting with Adobe Dimensions and Photo CD.

Designed to convey a strong, uncluttered image, the packaging for these products from RobotWare of New Berlin, Wis., was created by Design North with the robot concept in mind, as well as attention to the versatility and durability requirements of the company. This package won a Gold Award from International Brand Packaging Awards.



machines as quickly as possible.

"We feel [NetWare] has a real speed advantage over Apple's current file-server options," Prinz said. "We got a speed increase of 30 percent over our [previous] Apple-Share network, including print spooling that's actually reliable as well as faster."

Most Macs at Design North are outfitted with about 20 Mbytes of RAM. "When we can use Apple's built-in video, we do," Prinz said. "When we can't, we use accelerated 24-bit display cards from several companies," including Radius Inc. and SuperMac Technology Inc.

The photo lab, often the last holdout of traditionalists, is successfully mixing film-based methods with scanners and software, Dommissie said. "We're ecstatic about [Kodak] Photo CD," he said. "We think it will save us tremendous time and cost by going straight to digital from photo." Adobe Photoshop is the company's retouching and manipulation application of choice.

Elsewhere, the predominant packages are XPress, Aldus Free-Hand and Adobe Illustrator, Prinz

said. "We also do some 3-D work in Adobe Dimensions and some color correction in EFI's Cachet software. We dabble in numerous packages, and there are many, many utilities, such as (Now Software Inc.'s) Now Utilities and (Symantec Corp.'s) Norton Utilities, that we couldn't get the job done without," he said.

## Adjusting to realities

Although many large companies are sending less design work to outside companies, that trend has yet to hurt Design North, Dommissie said. "We're able to maintain a relationship with those clients because we have a division that will help them with computer design and production systems, hardware and software purchasing, and training," he said. "We keep on the bleeding edge so we can keep our clients on the cutting edge, and I think they appreciate that."

"We're not in fear of losing much business when companies take work in-house since we position ourselves as marketing partners with them," he said. "Long-term relationships are always the goal." □



# Read my clips.

## THE BOTTOM LINE

The HP ScanJet IIC sets a new standard for affordable color scanners. Its engine is fast and well-engineered, and HP's innovative color-calibration software makes hassle-free, "true"-color scans a reality. Prices at less than \$2,000, the HP ScanJet IIC is a best buy in its class.

## It's blazingly fast!



## WINNING COMBINATION

To test the HP ScanJet IIC, we used the same set of tests we used for our most recent color-scanner lab report. The results showed HP's new scanner to be the best in its class in both hardware and software. The ScanJet impresses from the moment you open the box. Other

scanners use a removable screw that locks the scan head for shipping, but HP uses a locking lever that's built into the scanner itself. There's no screw to lose, and the lever is so easy to use that you'll find yourself locking the scan head more often, thereby increasing its life span.

## Top honors in every scanner category.

and black-and-white photos, the ScanJet IIP is an exceptional product. The scanner is just 16 inches long and 10 inches wide.

TOP-NOTCH HARDWARE TEAMED WITH INNOVATIVE SOFTWARE MAKES HP'S NEW COLOR SCANNER A WINNER.



The HP ScanJet IIC uses a one-pass scanning method that makes it one of the fastest color scanners we've seen. It also provides time-saving color previews that dynamically display any changes you make to the scan, such as exposure, hue, and saturation modification.

the scan head, and color accuracy showed the HP ScanJet IIC to be a top performer. In addition to scanning at an optical resolution of 400 dpi, the HP ScanJet IIC can scan at 600 dpi.

## 1992 Diamond Awards

For an all-around scanner offering high-quality color and black-and-white images, true 400-dpi resolution, and good basic scanning software, HP's ScanJet IIC can't be beat.

## "We were extremely impressed..."

Hewlett-Packard's ScanJet IIP sets a new standard for affordable desktop gray-scale scanners. From its striking compact design to

**We'd hate to brag. So we'll let the Mac press do it for us.**

Macworld awarded both the HP ScanJet IIC and IIP their *World Class Award*, and named the HP ScanJet IIC as the *Best Color Scanner* for 1992, and the HP ScanJet IIP as the *Best Black & White/Gray-Scale Scanner*. While MacWeek gave their prestigious *Diamond Award* to the HP ScanJet IIC.

Speed. Simplicity. And accuracy were all applauded. It's no wonder. HP's single-pass scanning delivers both lightning-fast speed and precise color registration. TWAIN support allows scanning without having to switch between applications. And HP AccuPage technology with 400-dpi resolution can tackle the toughest OCR challenges. What's more, capabilities this advanced have never been this affordable. List price on the HP ScanJet IIC is just

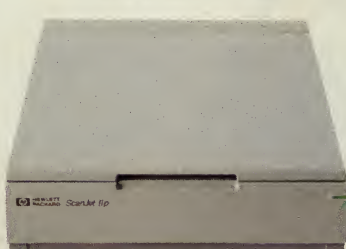
\$1,599. The HP ScanJet IIP is just \$879. And right now, the HP ScanJet IIC includes Adobe™ Photoshop LE.

Impressed? Don't just take our word for it, or even the Mac press's. Attend one of our scanning seminars that will be held April through September, 1993. To find out more about the HP ScanJet IIC and IIP or seminars in your area, call 1-800-SCANJET, Ext. 7364\*. And judge for yourself.

HP ScanJet IIC



HP ScanJet IIP









# Mitsubishi Flat Square Monitors Give Your World A New Perspective.

Auto-Scanning For  
System Upgradability  
With All Leading  
Third-Party Color Boards

Explore a brilliant new world of increased display clarity with Mitsubishi's third generation of flat square color monitors, including the Diamond Scan 15FS, Diamond Scan 17FS and Diamond Pro® 21FS. The Mitsubishi 15", 17" and 21" flat square line reduces image distortion and screen glare while delivering high-end performance, quality and features – all at exceptionally competitive pricing. ♦ Each of the models features an ultra-fine 0.28 mm dot pitch suitable for all high resolution applications; an Invar mask for sustained high brightness levels; an ergonomically-designed, compact enclosure with a tilt-swivel base; and the easy-to-operate, microprocessor-based front panel user controls allow you to fine tune the display to your color board. To provide the highest levels of display accuracy, the Diamond Scan 17FS and top-of-the-line Diamond Pro 21FS incorporate Dynamic Beam Forming, which reduces image distortion found at the edges of any monitor not equipped with this feature. ♦ Both units also feature Mitsubishi's exclusive new optical quality anti-static and anti-reflective coating on a high contrast tinted CRT.

What's more, all three monitors meet strict international guidelines for low magnetic emissions and are fully

backed with a three-year warranty on parts and labor. ♦ No matter which Mac® you're using,

simply select the appropriate cable adapter from your dealer.\* See our latest — *and greatest* — generation of flat square monitors for yourself. And gain a new perspective on quality, durability and value. ♦ For more information, call us at 1-800-843-2515. In Canada, call 1-800-387-9630 or in Mexico 91-800-83456.

**DS15FS: \$645 MSRP**

**DS17FS: \$1,299 MSRP**

**DP21FS: \$2,999 MSRP**



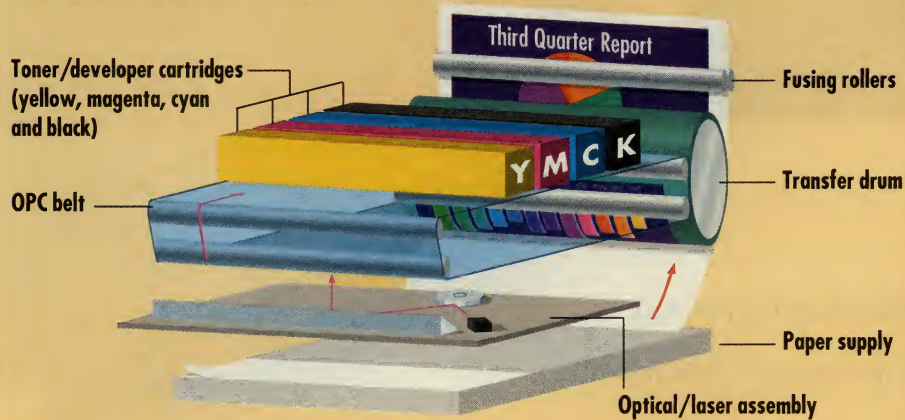
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\*Free signal cable adapters available for the Macintosh® LC, Centris, II, and Quadra families.  
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## QMS ColorScript Laser 1000



K. DANIEL CLARK

The ColorScript Laser 1000's laser assembly projects an image as cyan, magenta, yellow and black separations, and corresponding color toners are applied to the OPC belt. The toner is then passed to the transfer drum, which applies the image to paper in a single pass.

## Laser 1000

From Page 48

printer is its capability to print solid blacks on plain office paper," Zeiss said. "However, once you ask people to spend [\$12,500] on a printer, they're not so sure."

Several inexpensive color printers, such as 300-dpi, PostScript color inkjet devices, are available for less than \$2,400. And some 300-dpi, monochrome laser printers, such as Hardware That Fits' Real-Tech Laser, are now priced at less than \$1,700 (see story, next page).

Price is not the only hurdle QMS faces before it can sell the corporate world on the Laser 1000. Many other factors weigh into the market equation, including color quality and color matching, PostScript Level 2 support, print resolution, competition, and workgroup performance.

## The basics

The Laser 1000 is a dual-purpose, 100-pound desktop machine that

prints 300-dpi, letter-size monochrome or 24-bit-color pages as fast as 8 ppm and 2 ppm, respectively. It uses a photosensitive belt to transfer four CMYK (cyan, magenta, yellow, black) toners to the engine's transfer drum, which then applies the toner to paper in a single pass (see illustration above).

The Laser 1000 uses QMS' Crown printing technology to process and print multiple print jobs received via LocalTalk, parallel and serial ports. QMS will also sell optional Ethernet and token-ring interfaces for the Laser 1000. The printer's RISC-based controller uses new PostScript Level 2 emulation developed by QMS. Since the printer's operating code is stored on a 40-Mbyte internal hard drive, upgrades will require simply uploading new software.

## Color quality

The Laser 1000 prints 24-bit-color images as halftones, unlike high-end color copiers such as the Color Laser

Copier 350 and 500 models from Canon U.S.A. Inc. of Lake Success, N.Y., which print continuous-tone color images.

To improve color quality at 300 dpi, QMS has incorporated enhanced color-dithering technology that it claims will provide smoother-looking color and better color gradations. The Laser 1000 includes both standard PostScript screen angles and a second set of screen angles that QMS said will provide smoother backgrounds and graphics.

QMS has built in three color-rendering dictionaries (CRDs) that work with PostScript Level 2. Any application that uses a PostScript Level 2 driver can take advantage of these CRDs. Applications such as Adobe Illustrator and QuarkXPress, which generate their own PostScript code and bypass the PostScript Level 2 driver, cannot accommodate these built-in CRDs. Most business applications, such as Adobe Premiere and Microsoft PowerPoint, however, do not face this complication. Adobe's Level 2 driver is shipping for the Mac, and QMS provides a Level 2 driver for Windows.

"With the CRD in the controller, you don't have all the interactive features that you have on screen, such as screen preview and gamut alarm," said Adam Stock, product manager for EfiColor at San Mateo, Calif.-based Electronics For Imaging Inc., who also noted that those interactive items would be limited in any case to applications that support color management.

Customers using color management software with the Laser 1000

## Laser 1000 technical specs

**Print engine:** Uses OPC belt with CMYK toners to image drum in a single pass

**Resolution:** 300 by 300 dpi

**Print speed:** 8 ppm in monochrome, 2 ppm in color

**Duty cycle:** 5,000 pages per month

**Controller processor:** 25-MHz Intel 80960C

**Memory:** 12 Mbytes RAM standard (expandable to 32 Mbytes), 40-Mbyte internal hard drive

**Emulations:** QMS' PostScript Level 2 and Level 1 compatibility, HP PCL 5 with HP-GL 2

**Fonts:** 65 resident Type 1 PostScript fonts

**Card slots:** Two PCMCIA-compatible card slots for fonts, network security key and other purposes

**Interfaces:** LocalTalk, Centronics parallel, RS-232c serial, external SCSI adapter (with Simultaneous Interface Operation)

**Optional interfaces:** Thick, thin or 10BASE T Ethernet (DECnet or TCP/IP), \$1,395 each; Ethernet (NetWare), \$895; EtherTalk, \$895; token ring (TCP/IP or NetWare), \$1,095 each

**Paper sizes:** Letter, legal, A4, special A4

**Paper handling:** 250-sheet input (universal cassette), optional 250-sheet lower feeder, 150-sheet paper output tray

**Dimensions:** 20.5 by 22.2 by 14.6 inches

**Weight:** 86 pounds without consumables; 106 pounds with consumables loaded

must purchase an EfiColor profile for the printer. The good news, according to Stock, is that building the CRD into the printer will make it available to PC and Unix applications when they support Level 2 printing. "Users will be able to set the EfiColor, or any other CRD, from the front panel as the default color dictionary," Stock said.

The ColorScript Laser 1000's Business CRD is designed to provide basic color matching between printed output and average color-monitor display. According to Richard Bowles, director of the QMS business unit for the Laser 1000, the Business CRD uses a monitor profile based on an average between an Apple Macintosh Color Display and an NEC Technologies Inc. MultiSync monitor.

"The average business user will be most interested in basic screen matching," Bowles said. "They want the red on screen to print as red, and the blue as blue, not purple."

The Laser 1000's EfiColor Photographic CRD will work with any application that uses the PostScript Level 2 driver. According to Bowles, the EfiColor CRD is for reproducing scanned photographs, not necessarily for on-screen color matching. Bowles said that for image colors that are out of gamut, the EfiColor CRD will compress the gamut rather than clip out-of-gamut colors so that color contrast is maintained.

The Laser 1000's Colorimetric CRD converts data described in the CIE color space to CMYK data

## SCREEN TEST

## Entering The Twilight Zone of NOW Comics

Northbrook, Ill. — John Picha thought it was a joke. To a free-lance artist and designer with a penchant for comics, a project for NOW Comics, here, seemed unbelievable. Not only would he be able to use his talents to create computer-generated artwork, lettering and coloring, but he'd get to design the cover as well.

NOW publishes The Twilight Zone, a series of comic books dealing with the surreal world of the renowned TV show. The latest edition, "Pull the Plug," was written by Pat McGreal and focuses on a woman who develops a computer program that comes to life.

McGreal wrote the comic book's script with the TV show in mind. He conceived the story using a man as the central character, but after considering the metaphorical value of God as a woman, he changed it.

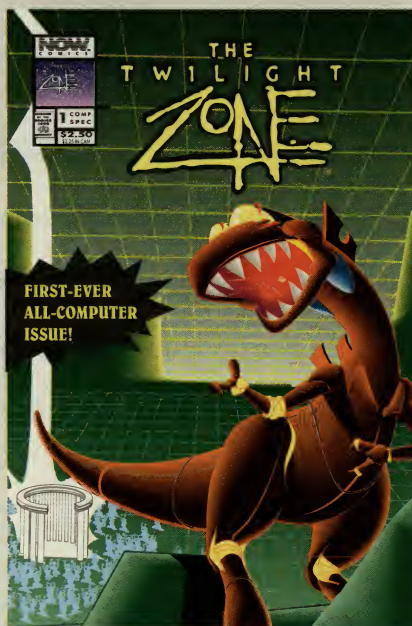
After hearing about the script from Editor Joan Weis, NOW Comics founder and Publisher Tony Caputo knew he wanted it to be computer-assembled. He contracted

Picha and the process was under way.

Armed with only his Macintosh SE and a copy of the script, Picha dove in. Using Adobe Illustrator, he created the black-and-white line art that required more than 8 Mbytes of memory. He took McGreal's description of computer glyphs and images and devised an imaginary world. After he scanned in the line drawing, it became apparent to Picha that he needed color and power that his SE couldn't provide. He then switched to a Macintosh IIfx with an NEC Technologies Inc. MultiSync 3fgx monitor and produced the interior color (requiring 14 Mbytes of memory) of the book and the cover, shown here.

The combination of the two mediums — comic books with computers — seemed perfectly logical to Picha. "Computers are the future," he said, "so it's the obvious link."

Throughout its seven-year history, NOW Comics has been a visionary leader of the comic industry. In addition to high-tech comic books, the company also publishes videos and trading



cards. Prior to the completely computer-generated issue, NOW experimented with holograms and 3-D technology. Readers can be sure that much more is in store when they enter The Twilight Zone. — By Maria Sample



for matching colors from systems specified in CIE.

EFT's Stock said that QMS' attention to Level 2 color features may seem like overkill for the business market, but it's actually a sign of sound planning. Future software will eventually incorporate the advanced color features of Level 2, he said. "I certainly think it will happen in the lifetime of this printer," Stock said. "QMS is simply staying ahead of the curve."

#### Text quality

Michael Weiss, president of MWA Consulting, a printer product testing and evaluation company in Palo Alto, Calif., said that based on preliminary samples, "the Laser 1000's text seemed surprisingly good, especially on glossy stock." But, he said, many people will certainly measure it against the emerging 600-dpi standard.

The 600-dpi Apple LaserWriter 630 Pro and the LaserJet 4 from Hewlett-Packard Co. of Palo Alto, Calif., have defined a new standard in business printing, Weiss said. "I do have some concerns, based on preliminary samples, about the Laser 1000's capability to reproduce scanned images and handle the graphic arts demands of printing text over color."

Weiss said there are products on the market with better price-performance ratios for printing color on spreadsheets or presentations. He favors the HP DeskJet 1200C, which achieves a resolution of 600 by 300 dpi using HP's resolution-enhancement technology. The PostScript version of the DeskJet 1200C, which first shipped in Europe and was recently released in the United States, is priced at \$2,399 and can print letter-size color-graphics pages at up to 1 ppm and monochrome text at 4 to 6 ppm. "Of the nonimpact color printers we've used, the DeskJet 1200C is by far the best in terms of text quality," Weiss said. "It's good enough to publish reports." To sell at the volume QMS anticipates, Weiss believes the Laser 1000 should be priced at less than \$10,000.

#### Color laser use

At this point, most people agree that presentations is a successful business application, said Blackstone's Zeiss. Color increases retention, projects a better image and provides clarity of emphasis, he said, which are the key communications goals of a presentation.

Charles LeCompte, editor of The Hard Copy Observer in Newton Highlands, Mass., said adding color to text and presentations sounds appealing but is unnecessary for most applications. "Some businesspeople will pay for special color applications, but that market is small," he said.

In contrast, Bill Gott, printer pro-

### Laser 1000 faces stiff competition

Are there compelling reasons for you to spend \$12,499 on QMS Inc.'s ColorScript Laser 1000 for your office, especially when other color-printer technologies cost far less? The following are some of the benefits of color laser printers:

- ▶ They double as monochrome laser printers for quick, inexpensive printing of text.
- ▶ They generally print faster than liquid and solid inkjet and thermal-wax transfer printers.
- ▶ They print optimally on plain paper, unlike most inkjet and thermal-wax transfer printers.
- ▶ They use toners that are waterproof and resist smearing or rubbing off.
- ▶ Their cost per page is competitive with other color-printing technologies.

#### Competing technologies

Dye-sublimation printers, priced in the \$5,000-to-\$25,000 range, produce good continuous-tone color, both for prints and transparencies. They are targeted largely at the graphic arts and high-end presentations markets. But that quality costs dearly: typically \$2 to \$6 per page at slow speeds (three to 15 minutes per page).

In contrast, Mobile, Ala.-based QMS estimates the average cost for printing a monochrome page on the Laser 1000 is 3 cents, while the cost for a four-color page with 50 percent toner coverage is 63 cents. Dye-sublimation printers, unlike color laser printers, require special media, and although a few, such as the CorrectColor 300 from RasterOps Corp. of Santa Clara, Calif., and the Phaser IID from Tektronix Inc. of Wilsonville, Ore., print at 300 dpi, text printing isn't a strong point.

Thermal-wax transfer printers, priced between \$4,000 and \$7,000, produce evenly applied, well-saturated colors, generally superior to those of color laser.

QMS representatives admitted that transparencies printed on the ColorScript Laser 1000

won't match the quality of thermal-wax prints because the color toners are not as translucent or as evenly applied as thermal wax.

With good color quality and a reasonable cost per page (typically 60 cents), thermal-wax printers are popular for printing presentations and desktop publishing proofs. Still, in most cases they require special paper for top quality and print relatively slowly (two to four minutes per page), with adequate text output.

Tektronix's Phaser 200e (\$3,695) and 200i (\$5,995) are among the exceptions, however, printing as fast as 2 ppm. They also automatically apply coating to printed areas for optimal print quality on plain paper.

Solid-wax inkjet printers, such as Tektronix's \$9,995 Phaser IIIpxi and the \$6,695 Jolt from Dataproducts Corp. of Woodland Hills, Calif., produce good color saturation, print optimally on plain paper and print relatively slowly (two minutes per page). Tektronix claims its Phaser IIIpxi prints color at a cost of about 27 cents per page.

Liquid inkjet and bubblejet printers capable of printing at 300 dpi or better cost from \$2,000 to \$10,000. Color saturation and overall color quality vary greatly among models but are generally not as good as thermal wax. Also, water-based inks can smear when wet. Printing speeds for inkjet and bubblejet devices are typically one to four minutes per page in high-quality mode. The JetPrinter PS 4079 from Lexington, Ky.-based Lexmark International Corp., for example, has a maximum print rate of about one page per one and a half minutes, while the new DeskJet 1200C from Hewlett-Packard Co. of Palo Alto, Calif., is rated at 1 ppm.

#### Color laser competition

The Laser 1000 will cost about \$10,250 less than its closest competitor, the \$22,750 CP4007 (configured with PostScript emulation) from Colorcops Corp. of Norcross, Ga.

The remainder of the color laser printers and copier/printers on the market cost between \$40,000 and \$100,000, depending on configuration. "Obviously, if someone was paying \$30,000 before, they'll be happy to pay \$15,000 now," said industry analyst Charles LeCompte, editor of The Hard Copy Observer in Newton Highlands, Mass., "although it's not necessarily going to be the same thing for half the price."

Colorcops, for example, has announced that the CP4007 sports a tabloid-size engine that's faster than the QMS ColorScript Laser 1000: 30 ppm for black and 5 ppm for color, compared with the 8-ppm and 2-ppm rates, respectively, of the Laser 1000. Comparative color quality will be an issue when these products hit the street.

The \$43,665 4700 printer from Xerox Corp. of Rochester, N.Y., outputs 7.5 ppm in color, 30 ppm in black, also on tabloid-size paper. Beyond that, color copier/printers such as the Color Laser Copier 350 with printer interface from Canon U.S.A. Inc. of Lake Success, N.Y., can cost from \$40,000 to \$60,000, and the CLC 500 from \$60,000 to \$90,000.

Steve Venuti, partner in Lai, Venuti & Lai, an advertising agency also in Santa Clara, said he relies on the high quality provided by the 400-dpi, continuous-tone output of the CLC 500, used with an Electronics For Imaging Inc. Fiery controller, which, he said, cannot be matched on low-end color laser printers, such as the Laser 1000.

Canon also provides a color laser printer engine to third-party printer vendors, the LBP-GX, used in the CLC 350. This 400-dpi engine prints tabloid-size color pages as fast as 2.5 ppm (4.5 ppm for multiple copies) and monochrome pages at 10 ppm (20 ppm for multiple copies).

Jeff Brenner, LBP product marketing manager for Canon, said he expects that an LBP-GX-based printer will be announced before the end of the year for less than \$40,000.

— By Bob Weibel

gram director for InfoCorp, a market research company in Santa Clara, Calif., said the Laser 1000's price is close to the mark. According to Gott, Canon's 400-dpi CJ10 Desktop Color Bubble-Jet Copier has been a fairly successful product, priced at \$9,695 with a SCSI printer interface (Canon announced that a PostScript version will be available in July).

"That's a good indicator, although the Laser 1000 will have greater capability and broader appeal than the CJ10," Gott said. The CJ10 engine's color-printing rate is from two to five minutes per letter-size page.

Businesses that rely on images such as advertising or marketing companies take color printing more seriously and are willing to pay for it. According to Steve Venuti, partner in the Lai, Venuti & Lai advertising agency in Santa Clara, the agency spent about \$90,000 for a CLC 500 with an EFI Fiery printer controller. The agency staff prints ad-layout proofs on the CLC 500.

"It's absolutely invaluable for our agency because our clients see an ad layout and it comes alive for them," Venuti said. "There's no more concept sell; they see what they're going to get and how it will work in their ad campaign."

Although Venuti's agency had been printing proofs on a Phaser IIIpxi from Tektronix Inc. of Wilsonville, Ore., the CLC 500 lets them print and distribute multiple copies more quickly. "It's paying its way because clients are buying more," Venuti said. "Our employees also have much higher morale because they don't have to go out in the middle of the night to get a color copy of a photo to paste into a comp."

Still, he said, Lai, Venuti & Lai represents the graphic arts market, which is not the promised land QMS sees as its prime market.

MWA Consulting's Weiss said QMS definitely hopes to sell more Laser 1000 printers than Canon currently sells CLCs with printer interfaces. "As the price comes

down, quantity expectation needs to go up," he said.

#### Future color

While analysts continue to debate the Laser 1000's market potential, QMS is taking the longer view. "I think the potential of the color laser printer market is analogous to what's happened with typefaces," said QMS' Bowles. "People once didn't think they needed 35 typefaces; now you can't sell them a printer without at least 35 faces built in. That same thing will happen with color."

It may also be true that just as market competition has dramatically pushed down font prices and led to their wider use, the same fate may await color on the business desktop. While QMS may be first out the door with its desktop color laser printer, other vendors are said to be close behind. According to sources, both Fujitsu and Hewlett-Packard are developing desktop color laser models that will compete closely with the Laser 1000. □



New Media STEVE ROSENTHAL

# Interactive TV still fuzzy

The convergence of cable TV and computer technology promises to deliver a torrent of interactive services — but somebody is going to have to fill up the reservoirs. By some industry estimates, the entire world-

wide stock of existing interactive CD-ROMs, computer packages, video programs and other material suitable for interactive use by a mass audience represents considerably less than a 30-day supply.

The cable industry says it's going to need a lot more programming. Speaking in San Francisco at the National Cable Television Association convention earlier this month, several cable operators pointed out that attractive two-way interactive services may turn out to be an essential element distinguishing their wire-based systems from upcoming one-way competitors such as direct broadcast satellites (DBSes). As cable systems are upgraded to hundreds

of channels during the next few years, some operators said, they might want to dedicate as many as one-fifth of those channels to nontraditional services such as interactive shows.

However, a single cable channel dedicated to 24-hour interactive programming might use the content equivalent of from 24 to 180 CDs per day, 8,760 to 65,700 per year. Of course, in the real world you'd expect a channel to repeat some material, and much of the initial programming might be adaptations rather than true interactive productions. Live shows may simply allow the home viewer to select among multiple camera angles, and the interaction on music

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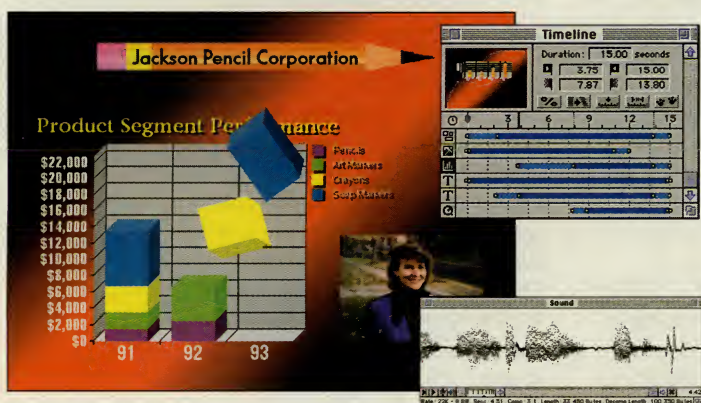
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One cable channel dedicated to 24-hour interactive programming might use the content equivalent of from 24 to 180 CDs per day.

video and infomercial stations may be limited to selecting which clip to play next. But under any reasonable set of assumptions, when interactive television arrives, it's going to be a large and voracious market for new types of programs.

Paradoxically, while this added market will absorb plenty of energy, it may also expand the supply of multimedia products for the Macintosh.

Because of the current lead the Mac has in multimedia development tools — as well as Apple's successful evangelizing in the Hollywood movie and TV industries — the Mac will be used for developing much of this new programming. Already, several cable systems experimenting with interactive programming are using Macs for development of their test material. Kaleida Labs Inc., the joint Apple-IBM Corp. multimedia company in Mountain View, Calif., said it will work with decoder maker Scientific Atlanta Inc. of Norcross, Ga., and Motorola Inc. of Schaumburg, Ill., to make Kaleida's Mac-compatible ScriptX cross-platform multimedia language a mainstream delivery environment for interactive programming.

Furthermore, most developers won't limit themselves to cable. The trend in the entertainment and information industries is to take the same material and deliver it in multiple paths on multiple platforms. Cable developers who use the Mac to produce their interactive video programs will find it easier to include the Mac in their other development plans, as well as make the Mac market more attractive for multimedia toolmakers.

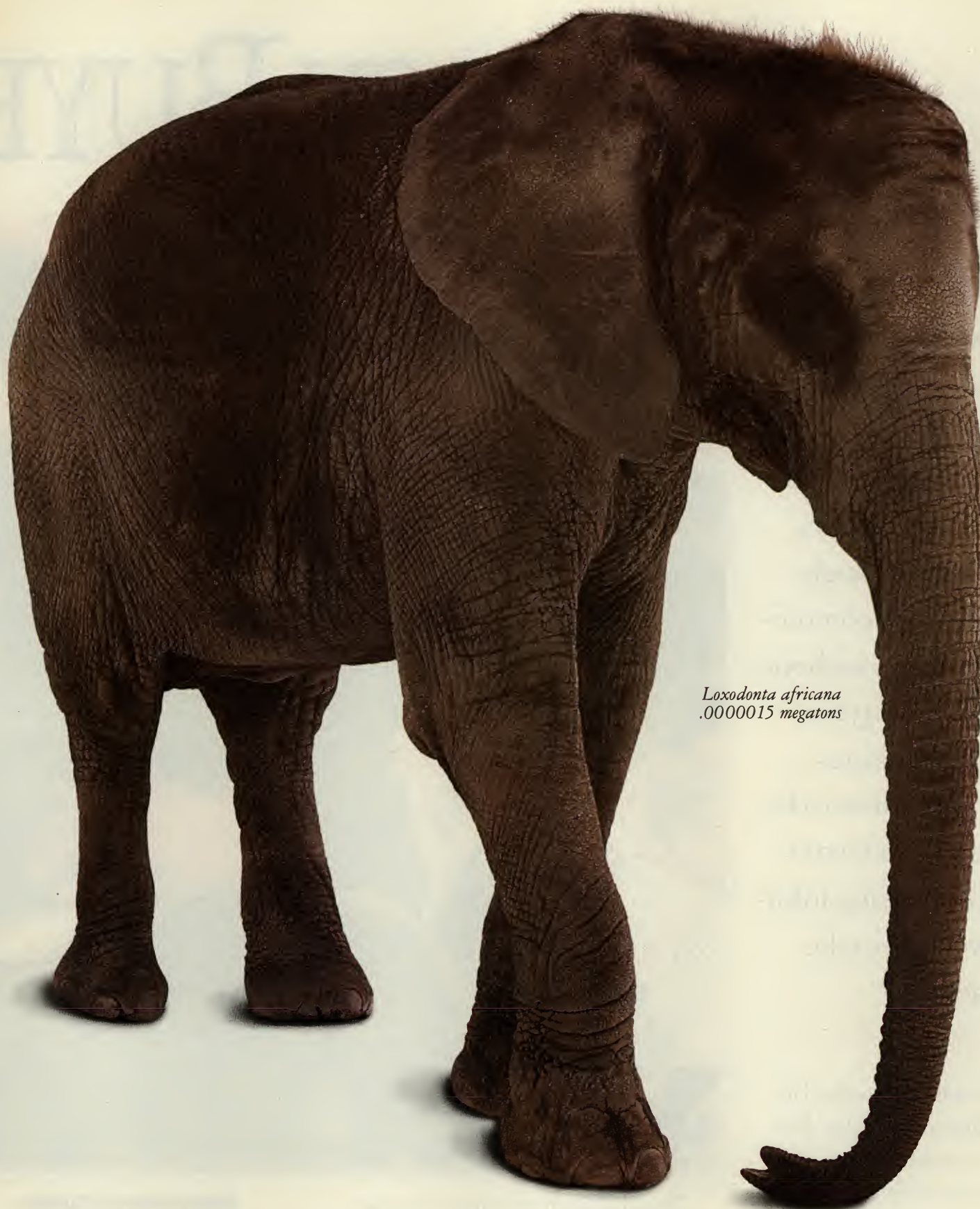
At least that's what it looks like this month. Even compared with the computer industry, cable is a fast-moving and fast-changing business. So stay tuned: more news at 11. □

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

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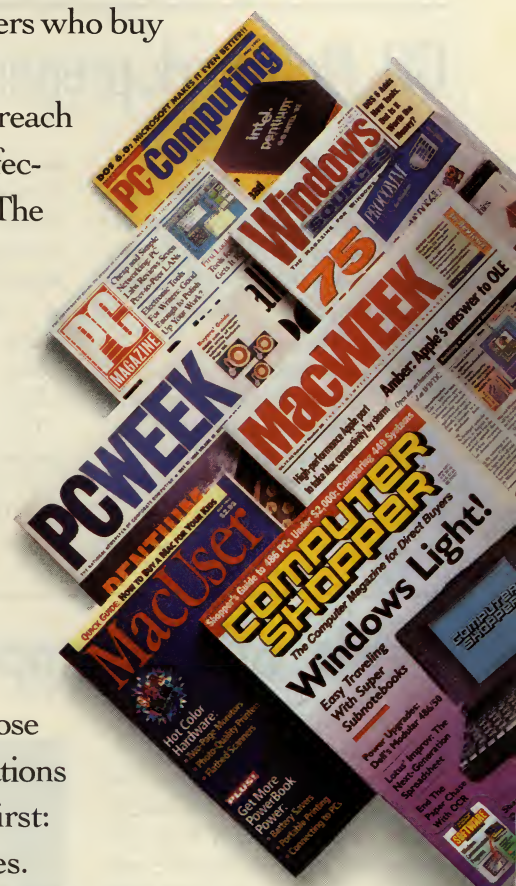
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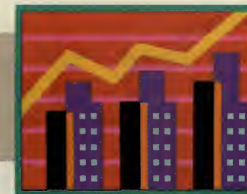
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# BUSINESS WATCH

► Industry news  
► Market trends



## Berger takes swift action at Radius

*May lay off 20 percent of employees this fall*

By Lisa Picarille

San Jose, Calif. — The words "mission/vision," "process" and "SkyLab" scrawled on a white board in Radius Inc. CEO Chuck Berger's office are telling signs of a company in transition.

Ninety days into his new job as Radius' third president and CEO in two years, Berger has already taken a series of steps to streamline operations and boost sagging sales

at the peripherals company, based here.

Berger has reorganized top-level management (see MacWEEK, May 3), coaxed two Apple veterans to join Radius and might reduce the company's 410-person work force by as much as 20 percent this fall.

Berger took the helm from former Radius CEO Mike Boich after the company posted a \$7.9 million loss for its second quarter amid declining margins. Despite its recent problems, Radius



Radius CEO Chuck Berger

still has a strong financial base, with \$23 million in cash and no long-term debt.

"Financially, what we've told the world is that this current quarter and the next are not likely to be profitable," Berger said.

A key part of Berger's plans to return the company to profitability is to improve slumping sales in North America. Dan Shaver, a former executive at Apple and Sun Microsystems Inc., has been named Radius vice president of North American marketing and sales.

In addition, Radius has hired former Apple executive Matthew Medeiros to run operations. Medeiros is responsible for slicing the company's operating expenses by 10 percent to 20 percent.

To do that, however, Radius will probably be forced to cut its worldwide work force by September.

"We will do some pretty dramatic restructuring in operations," Berger said. "It will more than likely result in fewer people. How many fewer and which people is hard to say. It's not massive layoffs. I doubt that it's even 100 people."

Berger also said he expects

## ON, Notework prepare to merge

By Lisa Picarille

Cambridge, Mass. — ON Technology Inc. last week announced plans to merge with Notework Corp. in a move expected to yield stronger cross-platform group scheduling and electronic-mail products.

The combined entity, to be called ON Technology Corp., will employ 60 people and be based near ON's headquarters here.

Neither private company would disclose terms of the stock swap.

Notework boasts an installed

base of more than 300,000 users of Notework E-mail for DOS and Windows. The Brookline, Mass., company's success in the Windows market is expected to help sales of ON's forthcoming Meeting Maker XP for Windows. Meeting Maker for the Mac is ON's best-selling application.

ON's other Mac products include Instant Update, a tool that lets users share and manage information; On Location, a program that

See ON, Page 64

## Apple, others support Energy Star program

By Jeff Ubois

Washington — Apple executives and other industry representatives joined Vice President Al Gore here this month to unveil the first computer products to meet the Environmental Protection Agency's new energy-conservation guidelines.

"This is a wonderful success story," Gore said. "I expect these [Energy Star computers] will soon become a common sight throughout the country and around the world."

They are certain to be common here. In April, President Clinton ordered that all computer equipment purchased by the federal government consume 30 watts or less and power down automatically when idle. EPA officials predicted that would save the federal government \$40 million a year in electricity bills by the year 2000.



Gore cited EPA estimates that desktop computers now account for about 5 percent of commercial electrical demand and that Energy Star computers will save enough electricity by the end of the decade to eliminate the equivalent of 10 coal-generated power plants or the emission from about 5 million cars. He later joked that the figures "came from the Bureau of Accurate Statistics."

Apple said its entire product line will eventually meet Energy Star

guidelines and that such enhancements for its CPUs, printers and monitors won't inflate their prices. More than 20 Apple products currently are Energy Star-compliant, including the LC III, Color Classic, Classic II, Personal LaserWriter 300, PowerBooks, and the Performa 200 and 400 series.

Other high-tech participants in the EPA program include Hewlett-Packard Co. of Palo Alto, Calif.; Compaq Computer Corp. of Houston; and Dell Computer Corp. of Austin, Texas.

"Our vision is to harmonize relations among our products, our customers and the environment," said Omar Khalifa, minister of Apple's Sustainable Technology Group. "We think this adds value beyond being cost-effective and powerful." □

## U.S. revokes active-matrix tariff; Apple eyes domestic manufacture

By Jon Swartz

Washington — A ruling by the U.S. Department of Commerce last week has cleared the way for Apple and other U.S. vendors to manufacture portable computers with active-matrix screens domestically without being hit by a steep tariff.

In its decision, the department revoked a 63 percent import duty on the displays, which are considered crucial in developing color notebooks and high-definition television systems.

Jim Burger, director of government law for Apple, said he is "very pleased" by the decision and that Apple plans to begin building flat-panel screens in the United States as soon as possible.

While a handful of small U.S. companies, such as OIS Optical Imaging Systems Inc. of Troy, Mich., had strongly favored the

duty to protect U.S. interests in the fledgling advanced-screen market, Apple, Compaq Computer Corp. and IBM Corp. opposed the import tariffs, contending that the duties inflate the cost of their products.

To get around the nearly 2-year-old tariff, Apple has manufactured its high-end notebooks offshore because screens built into already-assembled computers were not subject to the tariff. Apple also had talks with OIS before settling on Hosiden Corp. of Osaka, Japan, to produce its active-matrix screens.

OIS changed its position last fall and asked the Commerce Department to drop the levy (see MacWEEK, Nov. 23, 1992).

"We weren't a realistic alternative for laptop vendors, so why punish the entire American industry?" said Charles Wilson, OIS chief financial officer. □

### StockWatch

06.23.93 CLOSE WEEKLY % CHANGE  
Apple 40.50 -3.57

SOFTWARE DEVELOPERS		
Adobe	63.25	-12.15
Aldus	16.75	0.00
Caere	6.88	-8.33
CE Software	3.63	-3.33
Microsoft	88.63	-4.19
Novell	25.25	-12.55
Symantec	14.00	-17.65

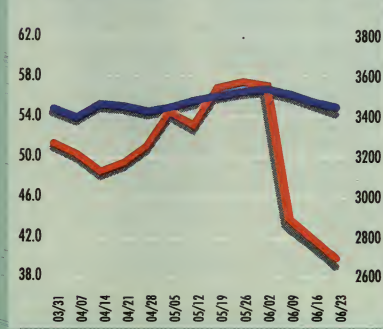
PERIPHERALS VENDORS		
CMS	3.00	0.00
HP	79.50	-8.62
QMS	8.88	-1.39
Radius	4.00	6.67
RasterOps	8.13	-13.33
Sigma	3.75	-11.76
SuperMac	21.00	-4.55

STORAGE		
Conner	9.25	-8.64
Maxtor	6.00	-5.88
Quantum	10.63	1.00
Seagate	15.38	-0.81
SyQuest	11.50	-16.36

INDUSTRY INDICATORS		
DEC	38.63	9.91
IBM	48.63	-2.51
Motorola	82.50	-1.35
Sun	27.38	-11.34
Dow Jones	3466.81	-0.72

Compiled by Nordby International Inc.

Apple stock price..... 40.50 on 06/23/93  
Dow Jones average..... 3466.81 on 06/23/93



### Quantum stock inches up



Quantum Corp. stock inched up 1 percent to \$10.63 per share last week even though the Milpitas, Calif.-based disk drive maker warned investors of a 50 percent drop in earnings for its first quarter ending July 4.

CEO William Miller said Quantum is in the process of reducing expenses to bring its margins in line with operating costs, but he ruled out immediate layoffs (see story, page 64).



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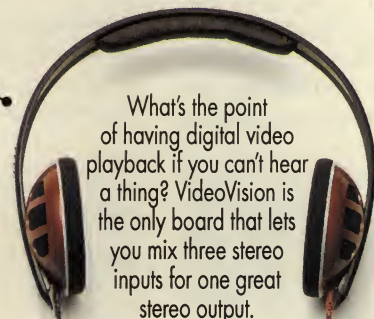
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# Windows app sales grow while both Mac, DOS fall

By Jon Swartz

Washington — North American sales of Windows software programs have eclipsed DOS-based application sales for the first time, according to the Software Publishers Association.

At the same time, Mac application sales, which had grown rapidly in 1992, have eroded in the wake of the Windows onslaught.

► **Windows sales** in the United States and Canada jumped 114 percent to \$669.1 million in the first quarter of 1993, compared with \$313.2 million a year ago.

► **Mac sales** for the first quarter of 1993 decreased 5 percent, to \$220 million from \$229.4 million.

In 1992, Mac sales increased 20 percent to \$989.7 million, according to SPA.

► **DOS sales** were \$501.6 million, down 20 percent from \$625 million last year.

In all, North American software sales rose 20 percent, to \$1.46 billion from \$1.21 billion last year.

"The story for the quarter was

## Windows apps top DOS

Estimated first-quarter retail sales (in millions) of Windows, Mac and DOS software for the North American market.

	WINDOWS	MAC	DOS
<b>Word processors</b>	\$122.8	\$19.6	\$53.9
<b>Spreadsheets</b>	\$111.0	\$14.1	\$47.2
<b>Databases</b>	\$98.7	\$17.0	\$43.8
<b>Graphics</b>	\$48.2	\$12.4	\$16.1
<b>Utilities</b>	\$25.5	\$12.7	\$31.9
<b>Finance</b>	\$32.2	\$14.2	\$79.4
<b>Integrated software</b>	\$11.1	\$7.5	\$8.1
<b>Languages, tools</b>	\$25.8	\$4.8	\$10.4
<b>Other</b>	\$193.8	\$117.7	\$210.8
<b>Total</b>	\$669.1	\$220.0	\$501.6

Source: Software Publishers Association

Windows ... again," said David Tremblay, SPA research director. He said Windows application sales outpaced DOS and Macintosh sales in all four major software categories: word processors, spreadsheets, databases and presentation graphics. □

# Start-up acquires FullWrite Pro

Somerville, Mass. — After almost two years of lying dormant in the hands of Borland International Inc., FullWrite Professional was sold last month to Akimbo Systems.

Akimbo, a 2-year-old company based here, said it plans to deliver a revamped System 7 version of FullWrite later this year. FullWrite Professional 1.5, which at one time had a loyal following, has not been updated for two and a half years.

Scotts Valley, Calif.-based Borland took over FullWrite Professional, along with three other Macintosh productivity products, as part of its \$439 million merger with Ashton-Tate Co. in 1991. □

## ON

From Page 62

performs text and file searches; and Status\*Mac, a utility for auditing software and hardware on Macintosh networks.

ON and Notework plan to co-develop a Mac version of Notework E-mail, due later this year.

ON CEO Conall Ryan will become chairman of the new company. He will focus on strategic issues and help develop industry partnerships in the short term.

Notework President Christopher Risley will take the helm as company CEO. □

## Radius

From Page 62

Radius' core business segments — monitors, graphics cards, video and Rocket accelerators — to grow by 30 percent to 40 percent in the next year.

Another project that could substantially boost revenues is SkyLab, a forthcoming high-end media server.

SkyLab, which has not been announced but is expected to ship this summer, has already cost the company more than \$9 million, or about half of its R&D budget for the past 18 months, according to Berger.

Despite delays and rumors about the project's demise, Berger said: "We are moving ahead with SkyLab. The product will be on the market before the end of the calendar year. Frankly, it's still a very substantial market risk for us. SkyLab could, over a two- or three-year period, be as large as Radius is today, or it could get to the marketplace and everybody could say it's not what we wanted. Ultimately, people vote with their pocketbooks."

Radius, however, is struggling

with the marketing of SkyLab. "The questions, now that it is nearly done as a product, [are]: How are we going to bring it to market? And who is the target customer going to be?" Berger said.

SkyLab's obvious target markets

and current beta sites are in the fields of publishing and video.

"We used to build the products and then try to figure out who the customer was. Now we try to figure out who the customer is and then build the product," Berger said. □

## MacWEEK index

### DESKTOP COMPUTER PRICES

How the price of Apple machines sold through mass merchants and computer superstores compare with the prices of other personal computers, according to Re:Launch Inc., a Berkeley, Calif.-based research company. Figures based on sales in April and May.

BRAND	MODEL	PRICE	CHIP	OUTLET
Trion Inc.	386SX	\$599	386SX/20	ComputerLand
IBM Corp.	PS/1	\$899	386SX/20	Costco
Apple	Performa 400	\$899	68030/16	Bizmart, Office Depot
IBM Corp.	PS/1	\$1,199	486SX/25	Wal-Mart
Apple	Performa 600CD	\$2,698	68030/32	Office Depot
AST Research Inc.	Advantage	\$2,999	486DX/66	Costco
Dell Computer Corp.	466/M	\$3,350	486DX2/66	CompUSA
Apple	Centris 650	\$4,298	68040/25	Whole Earth Access

Source: Re:Launch Inc.

## Business

### BRIEFS



## TSI files for Chapter 7 bankruptcy protection

Eugene, Ore. — The parent company of Mac accelerator maker Total Systems Integration Inc. has filed for Chapter 7 protection in U.S. Bankruptcy Court here.

Privately held Telemarketing Services Inc., based here, claimed assets of \$191,466 and liabilities of \$523,788 in a June 18 filing. The 62-page document lists a dozen unsecured creditors, including the Internal Revenue Service and American Express Co. of New York.

TSI President David Shipway did not return phone calls.

## Mirror posts loss, cuts work force 10 percent

St. Paul, Minn. — Undercut by declining margins in the peripherals market, Mirror Technologies Inc. last week reported an annual loss and said it has laid off 10 percent of its work force.

The company lost \$3.5 million for its 1993 fiscal year ended March 31, compared with a profit of \$160,974 a year ago. Sales declined 14 percent, to \$17.9 million from \$20.7 million last year.

As a result, Mirror, based here, announced it has reduced its staff to 37 people and enacted other cost-cutting measures.

## Quantum warns of lower profits

Milpitas, Calif. — Disk drive maker Quantum Corp. last week said a raging price war and weakened demand will diminish earnings as much as 50 percent for its first quarter ending July 4. Quantum earned \$21.5 million in the year-ago quarter.

The company, based here, also said it expects its quarterly sales to fall short of the \$507 million it registered in the same period a year ago.

Quantum CEO William Miller said industrywide pricing pressure will push gross margins "substantially below" the 18 percent Quantum posted the previous quarter. He said margins aren't likely to rebound until September.

A Quantum spokeswoman said layoffs currently are not planned to cut costs.

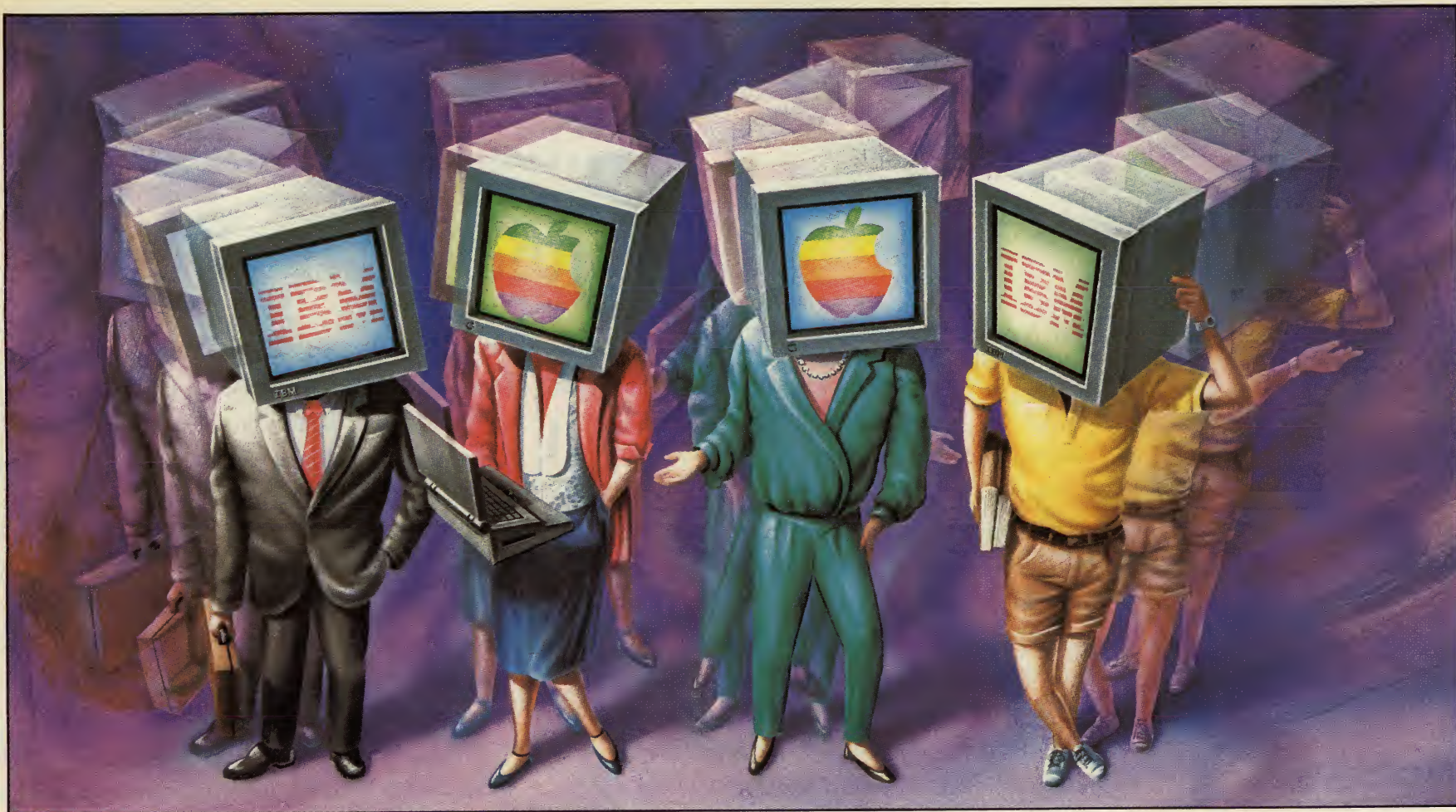
## Scitex invests \$10 million in RasterOps

Herzlia, Israel — Scitex Corp. Ltd. last week announced it has completed a \$10 million investment in RasterOps Corp.

Under the deal, Scitex, based here, acquired 1.25 million shares of newly issued RasterOps stock for \$8 per share. The investment represents 13 percent of Santa Clara, Calif.-based RasterOps' total stock.

The agreement also includes an option for Scitex to increase its total ownership to 19 percent at \$9 per share as well as joint development and marketing efforts between the companies.





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## EDITORIAL

## The quiet man

While we don't usually attribute any oracular properties to our editorials, occasionally it seems that Apple and MacWEEK are thinking along the same lines.

Last week we called for Apple to focus on its core business and to stop wasting valuable resources on questionable efforts such as content publishing and on-line services. The Opinion section was out to the printer days before John Sculley's decision to step down as CEO was announced. The change is viewed by most analysts as a move on Apple's part toward more pragmatic leadership.

To understand why, you need to examine the demeanor of Sculley's successor, Michael H. Spindler. Until now Spindler has shunned publicity. He has made few public appearances in the United States, preferring his native Europe.

But on those rare occasions when MacWEEK has had an opportunity to speak with Spindler, he has been extremely direct. He responds to tough questions with no-nonsense answers, making little effort to couch his words in the usual

hyperbolic doublespeak. This might explain his shyness; honest answers aren't always appreciated by stockholders.

In his two years as Apple president, he's been credited with giving the sometimes cavalier company a serious focus: gaining market share. He's also known as a pragmatist, a man who wants to know "where the rubber hits the road."

As one Apple insider noted, the switch to Spindler will be from a man who leads the company to a man who runs it. We feel this is a good thing. Apple lately has been plagued by a strategy du jour syndrome, a throw-everything-against-the-wall-and-see-what-sticks indecisiveness.

We'd like to see an end to "technology demos" of products years away from reality. And we'll be happy if we never hear another unsupported statement about Apple making the majority of its revenue from on-line services in the future.

We wish Spindler success in a difficult job and sincerely hope his pragmatism permeates Apple so that the question asked when examining new opportunities isn't "can we do it?" but "should we do it?" □

## My Turn by Mike Homer

## With PowerPC, the time is right to license Mac OS

At last month's Spring Comdex in Atlanta, IBM Corp.'s Jim Cannavino revealed that his company will introduce several new OS/2-based PowerPC PS/2 systems next year. Just a few weeks before that, John Sculley used the Apple Worldwide Developers Conference to demonstrate the first PowerPC Mac.

Along with the demonstration came a commitment from Apple for a swift transition to PowerPC and a forecast of 1 million "PowerMacs" sold in the first year. If this is true, just imagine what these two micro-computing superpowers could do if they truly combined forces.

## Power to the PCs

Sculley's demo made me think back to July 1991, when Apple shocked the industry with its alliance with IBM. A next-generation computing platform called the PowerPC was one of the main items on the alliance agenda.

PowerPC then seemed like a new moniker for a 1980s IBM processor design. At the

time, I didn't think PowerPC had much of a chance of competing with Windows and the 486 for the future of PC standards.

But two years later, I must admit PowerPC looks like the rose among the many dandelions of the Apple-IBM venture. The prototype 80-MHz version of the PowerPC 601 used during Sculley's demonstration should run five to six times faster than today's 486/25. And it's about as fast as Intel's RISC killer, the Pentium chip — at half the price.

At the same time, it's clear that the Mac operating system, applications and customer base are still Apple's crown jewels. The company keeps insisting that its future lies in software. Toward this goal, the new "open Apple" has begun licensing Newton, announced that Mac applications will run on Unix and is rumored to be putting the Finder on top of Novell Inc.'s DR DOS.

But all of these efforts are small potatoes compared with what Microsoft Corp. is doing with Windows. So, come on, gang. Think like Bill Gates and license the real thing!

## Catch the wave

The "real thing" is the Mac OS. Apple is putting far more investment into this architecture than any other, including Newton. So why not let OS/2 continue to be the server operating system it was originally designed to be and make the Mac the OS of choice for Power PS/2s?

Apple could also sign up the struggling clone vendors doomed to a future of incredible shrinking margins. Why not license PowerMac to Dell for direct sales, AST/

Tandy for value-added resellers, Toshiba for a PowerMac PowerBook, Siemens for Europe and NEC for PowerMac-J?

Think about it. With a little chutzpah, Apple might achieve 50 percent or 60 percent market share. Sculley's estimate of 1 million units for PowerMac shipments represents about 30 percent of Apple's 1994 volume. If the company could sign up the vendors mentioned above, with each achieving about the same volume as Apple, together the partners could easily sell more than 5 million PowerMacs in '94.

Now is the right time to move. Apple has talked internally for years about cloning the Mac. The PowerPC presents the ideal opportunity to take the plunge and get out ahead of Microsoft on a platform with all the earmarks of being a market-share juggernaut. □

*An eight-year Apple veteran and former director of product marketing at Apple USA, Mike Homer is now vice president of marketing at GO Corp. of Foster City, Calif.*





## LETTERS



### Denigration of Windows NT is a disservice to all managers

Don Crabb's column about Windows NT (MacWEEK, June 7) reveals a shallow understanding of Windows NT. I use both Windows and the Mac daily. I also provide support for and make purchasing decisions about both platforms, and I can honestly say that I hate and love them both.

Although NT does require more-powerful hardware than commonly found on the average corporate desktop in the United States, it is not meant to replace Windows and Windows for Workgroups. NT is designed for the high-end power user and mission-critical servers, which probably already meet or exceed those requirements.

What makes NT very appealing is its true multitasking capabilities, which are lacking in System 7. This is hardly earth shattering, but anyone who uses those features will not want to return to a time-slicing environment. NT is ready to participate in the fault-resistant market with its built-in support for multiple processors and the transaction database in the NTFS, the NT file system. For those migrating from Windows, there will be minimal retraining expenses.

While it's true that System 7 takes far less RAM and disk space than NT, it also does far less. Security features built into NT and NTFS make it very appealing for those who work in sensitive environments.

I've never heard the other managers I associate with complain about the implementation costs of NT. NT is not the System 7 of the Windows family. Windows for Workgroups is a much more apt comparison.

NT is the start of a portable operating system that will be platform-independent. It will be running on Intel Corp., MIPS Computer Systems Inc. and Digital Equipment Corp. platforms. This protects your software investment. It's true that some Windows applications may not run well on MIPS or DEC platforms, but this is manageable until upgrades are available. In some cases, it will require only that the vendor recompile the code. NT is also going to be ported to the PowerPC platform eventually. More platforms will also be supported.

If NT is successful, it will mark the beginning of a different kind of computing. It will no longer matter which hardware you use. Cost and performance will be key deciding factors. Hardware will be a commodity item, much as it is now with the exception of Apple iron.

The potential of the Advanced Server version of NT is even greater. Apple's products for servers and enterprise computing are weak in my opinion. Apple does offer the built-in AppleTalk network, but for real work it is hardly acceptable in the corporate environment. Apple itself has recently taken to downplaying AppleTalk, calling it "today's

async connection." Advanced Server goes much further, offering fault-tolerant features with support for multiple processors and, more importantly, single-account log-ons that will apply enterprisewide. This makes real-world LAN administrators very happy.

I say Microsoft is listening to its customers. It is being responsive and responding to customer needs. Microsoft has marketing clout at least in part because people like what it offers.

The last paragraph of the column states that Microsoft "with its usual arrogance and clout will attempt to force its views on its customers." The same could be said of Apple, too.

Randy Dugger, workstations standards manager  
Tandem Computers Inc.  
Cupertino, Calif.

### High-end customers forsaken in onslaught of new products

Thanks for the editorial "Don't Abandon Quadra owners" (MacWEEK, May 24) and for sticking to your convictions in the face of Apple's hollow response (MacWEEK, June 14).

I'm sure the editorial was an embarrassment to Apple because you had the bad form to call attention to yet another example of Apple's misguided corporate philosophy. Apple may view an Apple-labeled upgrade and a limp commitment to work with third parties as the same thing, but most of us have come to know better.

Apple is under fire for its increasingly prolific release of new products, most with little real innovation. I'm not suggesting that it hold back on new models, but its blatantly intentional failure to support its existing top-of-the-line products is a thinly disguised form of forced, as opposed to merely planned, obsolescence.

Apple's intention to make available a PowerPC upgrade for less powerful Macs while excluding the Quadra only supports the widespread conviction that buying Apple's top-of-the-line products is the kiss of death.

I have long tired of Apple's continued short-term philosophy, and I would love to have an alternative to its overpriced, purposely obsoleted hardware. Apple may have been able to get away with these predatory practices in the past, but with the technological gap narrowing, it is a policy that is suicidal at best.

Mitch Ives  
Mitch Ives Computer Graphic Solutions  
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Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI 323-1203; Internet, letters@macweek.ziff.com; fax (415) 243-3650. Include your name, address and phone number. Letters should not exceed 300 words. We reserve the right to edit for clarity and length.

## The Mac Manager

### Spindler in, Sculley out, Apple's salad days are over



DON CRABB

Well, it's official. The salad days of Apple are over. With Michael H. Spindler now in charge, Apple employees will be lucky if they get coleslaw at their company bashes, much less fresh spinach salad with a touch of garlic and a hint of balsamic vinegar.

Spindler, known for his dogged pragmatism and adherence to a cold, calculated bottom line, will slash and burn Apple's way back to solid profitability. He'll further reduce Apple's overhead, chopping its operating costs down so far that no matter what happens in the great computer pricing wars, Apple will survive.

This basic dossier on Spindler can be found in newspaper stories from coast to coast since John Sculley made it official that he is stepping down after a remarkable 10-year reign as Apple's top boss.

#### Come to the bridge

Regardless of what else you think you know about Spindler, you don't know half of it. Some who worked with him at Apple Europe talk about him possessing the charm of Robbie the Robot. *Alles est ordnung?* was his battle cry, they say. I suspect he's more like Jean-Luc Picard's trusted android, Data. I remember a speech Spindler gave at the Apple Worldwide Developers Conference last year in which I could have sworn I heard his logic unit whirring...

According to Sculley, Spindler was being groomed for this moment for the past two years. Given the way Spindler works, perhaps a more accurate statement would be that he was programmed for the job over the past two years.

No matter. Apple's board members didn't ask our approval for their selec-

tion. (I wonder if they've been told that Steve Jobs is gone.) Spindler is fully in charge as Apple CEO and president, so we'd better get used to it.

#### Be like Mike

If you consider Spindler's tenure as Apple president since 1991, you see that he is very comfortable as a day-to-day chief operating officer, running the numbers and the operations. But what you don't see is someone with the vision to decide what Apple should be making and selling the rest of this century and well into the next one.

It was Spindler who, despite plenty of cajoling from developers and IS folks, couldn't get VITAL articulated in a reasonable time (we just now have the manuals, for example). He let Apple drag its feet on development of a real database strategy with the necessary cutting-edge products to back it up. As a result, Apple is a database follower, not a leader.

In short, Spindler is most comfortable with the bottom line, most uncomfortable with the strategic commitments and decisions it takes to ensure that same bottom line.

Even more troublesome will be the tendency of the marketing people to become Spindler wannabes. To put the best damage-control spin on this change, here's what we, as mere customers, can do:

First of all, don't waste time crying to Sculley about this change; it's a done deal. He's on a well-deserved sabbatical.

We all need to contact Spindler and give him the message that although the bottom line is important, he shouldn't ignore what made Apple products insanely great in the first place. □





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# Reviews

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► In Brief. See Page 76.  
► MovieWorks. See Page 79.  
► Local Expert. See Page 82.



## Connectix's CPU 2.0 steps out as the best-dressed PB utility

*Latest update improves interface, adds file-synchronization feature*

By Dale Coleman

Connectix Corp. is now shipping Version 2.0 of its suite of power-management utilities, Connectix PowerBook Utilities (CPU). When we first looked at CPU (see MacWEEK, Sept. 28, 1992), we thought that it dealt with power-management issues very well but there were problems with CPU's interface that made it confusing and unnecessarily complex to use.

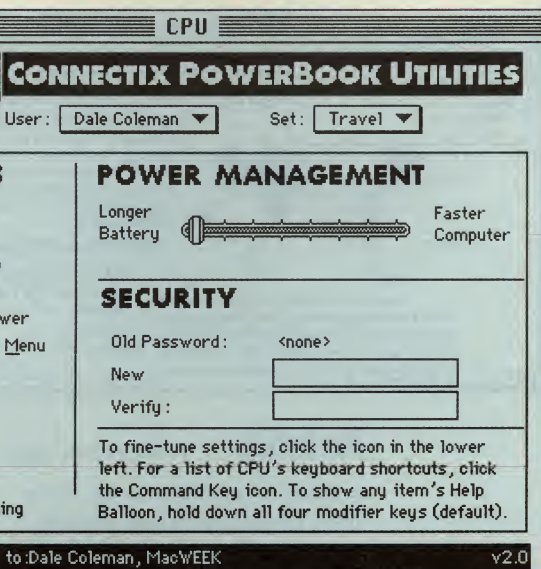
Connectix has been working on CPU 2.0 for some time and has attempted to streamline the interface while also adding a file-synchronization feature to bring the program's feature set in line with Symantec Corp.'s Norton Essentials for PowerBook (see

MacWEEK, Jan. 4), one of the other leading PowerBook utilities.

### Set and match

The \$99 CPU is designed around the concept of "sets." Sets are profiles of management choices based on the environment in which you are using your PowerBook. Each set contains settings governing variables such as battery-power conservation, security and connection to network devices. The underlying assumption is that there are three basic PowerBook environments, each requiring different configurations for optimum efficiency. At home, you're probably connected to AC power. On the road, you're likely to be running on battery

power. At the office, you may be running on battery power, but you're never far from an AC source. CPU comes configured with sets for these three environments, with the Travel set offering maximum battery-charge conservation and the Home setting providing maximum performance. You can modify these sets or create additional ones for other environments with different considerations. You can also create groups of sets orga-



**CPU's QuickConfigure allows easy management of battery charge without dealing individually with timeouts for sleep, screen-backlight dim, processor rest state or disk status.**

nized by user so that users who share the same PowerBook can configure CPU as they want without affecting other users.

CPU includes a wealth of other relevant time- and battery-saving

See CPU, Page 71

## Applications learn to share with Common Ground

### No Hands achieves font, app independence

By Ross Scott Rubin

Users who have sought to exchange fully formatted documents have had to rely on the same applications and fonts to reach a common ground. That goal has just become easier with No Hands Software Inc.'s \$189.95 Common Ground, aimed at paper-intensive corporate and commercial publishing environments.

Using technology that Farallon Computing Inc. originally announced in its never-released DiskPaper product, No Hands uses a new file format — DigitalPaper — to achieve font and application independence. A DigitalPaper file consists of a series of bit maps created at various resolutions that are used to preserve the look of on-screen and printed documents. Resolutions for screen viewing are set at 72 dpi and 100 dpi and at 300 dpi for high-resolution printing. Unlike the MacPaint or TIFF images of yore, though, the text in Common Ground remains selectable.

Since Common Ground relies on an image of type rendered at

specific resolutions, it can create an exact "pixel-for-pixel" copy of a document's image even if a viewer lacks the original fonts. This makes a qualitative difference for documents using ornate or script fonts, whose looks are not accurately preserved by multiple-master fonts in Adobe Systems Inc.'s recently released Acrobat Exchange.

Common Ground requires a Mac to create and read DigitalPaper files. No Hands has announced that a version for Microsoft Windows will be

available this summer, with viewers for other platforms — including Apple's upcoming Newton personal digital assistants — sometime later.

### Driver to succeed

The main tool for creating DigitalPaper documents is CG Maker, a Chooser-selectable printer driver. The CG Maker Print Dialog provides two buttons for security and sound annotation. You can prevent a potential viewer from copying text or

See No Hands, next page

### score card

#### CPU

Connectix Corp.  
Version tested: 2.0  
List price: \$99  
Overall value ♦♦♦♦

This upgrade to the oldest of the PowerBook power-management utilities doesn't add a lot in terms of features, but it does make the program (and your PowerBook) much easier to use. The most notable new feature is a very basic file-synchronization utility that supports both Finder-level drag and drop and saved sets. CPU 2.0 also includes support for color PowerBooks and external monitors. As is the case with most similar utilities, CPU's estimated-battery-life indicator is nearly useless, but our overall impression is very favorable. This upgrade helps ensure that CPU retains its rank as the most comprehensive and most popular general PowerBook utility.

Performance ♦♦♦♦  
Features ♦♦♦♦  
Ease of use ♦♦♦♦  
Documentation/support ♦♦♦♦

\*Free if Version 1.0 was purchased after Jan. 1. All others, including owners of competing products, can upgrade for \$19.95 plus shipping.

### RATINGS KEY

♦♦♦♦ Excellent ♦♦♦♦ Very good  
♦♦♦ Good ♦♦♦ Fair ♦ Unsatisfactory

### score card

#### Common Ground

No Hands Software Inc.

Overall value ♦♦♦♦

Version tested: 1.0

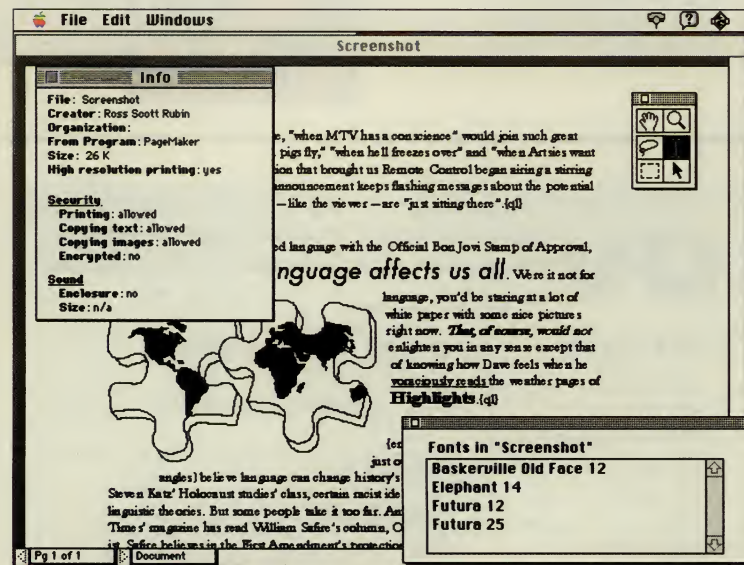
List price: \$189.95

The goal of the "paperless office" remains an ideal with the introduction of Common Ground, which lets you distribute documents to others who lack the creating applications or fonts. The product's file format, DigitalPaper, creates bit-mapped files that can be viewed with the Common Ground application or as a stand-alone application. Graphics and text can be copied from DigitalPaper files, but the product does not handle paragraphs dynamically. While the software offers accurate reproductions of fonts at 72 and 100 dpi for the screen and 300 dpi for printers, it does not offer support for higher resolutions of text and does not handle Encapsulated PostScript files well.

Performance ♦♦♦♦  
Features ♦♦♦♦

Ease of use ♦♦♦♦  
Documentation/support ♦♦♦♦





## No Hands

From previous page

graphics or printing an image. Savvy users, though, can at least partially circumvent these by using screen shots and optical character recognition software. Common Ground also lets you encrypt the entire Digital-Paper file, in which case it can't be opened without entering a password.

The Add Sound button lets you append a single sound to the Digital-Paper file. Sounds can be either pre-recorded or recorded at the time of annotation with an Apple or third-party microphone. You cannot, however, add sound or text notes at particular points in a document.

Common Ground also lets you include "high-resolution information" — a 300-dpi bit map that the program uses to print to standard, office laser printers (300-dpi resolution is usually sufficient for office communications and line art). With the increasing popularity of 600-dpi printers, we hope No Hands will honor its announcement to eventually allow more flexibility in the resolutions generated by CG Maker.

In addition, No Hands includes a drag-and-drop application, CG AutoMaker, that converts a normal file to DigitalPaper format if the creating application is available. CG AutoMaker is limited to creating documents with CG Maker's default options.

An easily overlooked feature of Common Ground is the PowerBook Screen option it adds to the Page Setup dialog box. Digital-Paper files printed with this option will neatly fit the 640-by-400-pixel screen size of both PowerBooks and compact Macs. This greatly reduces the amount of scrolling that PowerBook owners must do to peruse a DigitalPaper file.

### Doc with a view

DigitalPaper documents can be viewed with the Common Ground application, which displays the document in a window with two pop-up menus: one for page navigation and another that lets you select

from whole document, single page and thumbnail views.

A Get Info command handily displays the creating application, file size and security privileges of a Digital-Paper file as well as the size of an attached sound file. The feature is complemented by a Document Fonts window displaying the specific fonts and sizes used in the document. Unfortunately, Common Ground can print only low-resolution preview images of Encapsulated PostScript files created by popular applications such as Aldus FreeHand.

A floating palette houses a magnifying glass that lets you zoom in by as much as 400 percent and a grabber hand that lets you move around the page. The palette also contains rectangular, lasso and I-beam selection tools. Graphics can be selected as either PICT or bit map. Although you can choose whether to include line breaks at the end of a line, Common Ground cannot automatically handle traditional breaks within paragraphs.

The Viewer's other palette lets you apply section guides, which are dividers that let you easily select text in multiple columns. By using different combinations of selection techniques, you can extract tabular data, but gaps between numbers translate as spaces, not tabs. Section guides are the only confusing part of the application's interface; they should be replaced or augmented with a tab-savvy Copy as Table command.

The application provides none of the annotation, bookmarking or hypertext-linking features of Acrobat Exchange, but Common Ground's Find command does let you quickly track down specific words. It presents an option to find all occurrences of a word or phrase in a document and to move to each occurrence quickly.

### Standing alone

Like compression programs that can create "self-extracting archives," Common Ground's MiniViewer elegantly ameliorates the problem of reader software distribution. A code segment attached to a Digital-

**Common Ground preserves the layout and fonts of a document created with Aldus PageMaker. Two Common Ground palettes present document and font information, while a third provides selection tools.**

Paper document, the MiniViewer turns DigitalPaper files into applications that can display a self-contained document (which adds about 60 Kbytes to a file's size). You specify whether a document should contain a MiniViewer in the CG Maker Print dialog. Regardless of whether the document contains a MiniViewer, No Hands' licensing allows you to distribute as many as 100 copies of any document for each copy of Common Ground.

Nevertheless, the diminutive connotation of the term "MiniViewer" should not be taken lightly. A MiniViewer file provides only menu commands for printing and navigating to the next, previous, first or last page. You cannot find text, and we'd like to see at least a "go to page" command in the MiniViewer. Using the MiniViewer also precludes using Common Ground's sound or security features, a condition that the Print dialog could explain more proactively by dimming the sound and security buttons.

This summer the company will release a freely distributable reader on on-line services.

### Performance

We used CG Maker to print documents from QuarkXPress, Aldus PageMaker, MacDraw Pro, Aldus FreeHand and Microsoft Word on a variety of Macs ranging from a PowerBook 100 to a Quadra 800. Typically, printouts to Dataproducts Corp.'s LZR 960 and a Hewlett-Packard Co. LaserJet IIIsi printers closely matched the originals — as long as images did not rely on PostScript graphics.

No Hands still needs to do some fine-tuning. Turning on fractional widths, for example, can cause some distortion when zooming in on documents. In the PageMaker file, a vertical line on every page sometimes did not appear. Several users have also reported crashes when printing from a MiniViewer document; others' printers froze when printing large, color documents.

Selecting text in documents was also sometimes a tricky affair. We were impressed that we could select text inside an EPS graphic as long as it was in a horizontal line. On the other hand, exporting one XPress file to text yielded random extra spaces within the text file.

We were generally satisfied with the file sizes of DigitalPaper documents, which were close to the size of files in their native format. One way to keep file sizes down is to set your monitor's bit depth to its minimum possible setting — CG Maker creates files at the color depth that the monitor is set to, which can be a problem if you work in 24-bit mode and want to transmit black-and-white documents, or if you include only eight-bit graphics in a document.

### Documentation and support

Common Ground ships with a manual that is light on printing, font and file-format considerations. The Common Ground Print dialog and application contain on-line help, and the disk contains an on-line minimanual, although no part of Common Ground contains balloon help. No Hands provides technical assistance via a toll call and through on-line addresses on America Online, AppleLink and CompuServe. When contacted, technical-support representatives were eager but gave inaccurate responses to two questions.

### Conclusions

The fact that Common Ground saves fonts and graphics as bit-mapped images is something you must accept if you want to use this product. Although this may be acceptable in smaller-size documents, large, bit-mapped documents would seem undesirable, particularly when you consider Common Ground's target market.

By limiting annotation to a single sound file, Common Ground has not adequately addressed the importance of annotation. To fulfill this obvious promise of electronic document distribution, No Hands will have to work hard to meet the extensive annotation and bookmarking features of Acrobat Exchange. Users who need those features or who include high-resolution EPS files in their documents will also have to consider Acrobat.

Overall, however, Common Ground represents a simple and effective way to distribute complex formatted documents — as long as you can settle for the viewing and printing resolutions the program provides. As bare-bones as the MiniViewer is, it greatly simplifies document distribution, especially for shorter documents, where navigation is less important. Digital-Paper is a sound technology and gives the most faithful reproduction of a document to users who lack the original fonts. With a beefed-up viewing application, Common Ground could truly raise document exchange to a higher level.

No Hands Software Inc. is at 1301 Shoreway Road, No. 220, Belmont, Calif. 94002. Phone (800) 598-3821; fax (415) 593-6868. □

### SYSTEM 7 COMPATIBILITY

#### Common Ground 1.0

Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events	Yes
32-bit addressing*	Yes

\*According to vendor.



## CPU

From Page 69

options, all of which are saved with each set. These include hot keys for many of CPU's features, an LCD saver, keyboard shortcuts for choosing menu items in any application, status indicators, security options and more. Many of these features were in the previous version of the product, and Connectix wisely has not tampered with the general functionality of CPU. One new option in Version 2.0 is AppManager, which lets you use the keyboard to switch among running applications.

**Easier configuration**

The first thing users of the original version will notice is that setting CPU's many options is now much easier with a new operational mode called QuickConfigure. In the original control-panel-style mode (now called Fine-Tune), users dealt with each feature in its own window. While you can still work this way, QuickConfigure lets you use a single slide control to adjust power-consumption options, from longer battery charge to faster performance. All the other features can be turned on and off from this mode, or you can click an icon to tweak it from the Fine-Tune mode.

Version 2.0 also includes a Punch Through command. You can make a change to one set, then use this command to cause all sets for that user to reflect the change. This is quite logical and remedies one of our main complaints about the original version of CPU. This command and QuickConfigure make CPU's features, which can otherwise be somewhat bewildering to the casual user, much more accessible.

**Two ways to synchronize**

Many users manually move sets of files between their PowerBooks and desktop Macs, and CPU 2.0 adds a synchronization feature, EasySync, to help facilitate this process. CPU modifies the Finder so that when you drag one item's icon and drop it onto an icon on another volume, the standard Replace or Cancel dialog box includes two new buttons: Sync and Merge. The Merge button replaces the older item with the item you dragged. The Sync button

works in both directions, ensuring that the two items' contents are identical. If you have items with the same names but different modified dates, EasySync will ask if you want to replace the item on the destination volume.

CPU also lets you create predefined sets of items for synchronization. These are called "synclets," which are created with a command on the new Synclet menu icon (synclets saved in the default Synclet folder appear on this menu). The Synclet window is modeled after Apple's Users and Groups window for System 7's file sharing. A synclet contains an icon for each included item. The icons reflect the direction of the synchronization, and there are distinct icons for files, folders, network volumes and floppies. You can add items to a synclet by dragging the icon to the synclet's window; items are removed simply by dragging them to the Trash.

Technical-support personnel at Connectix confirmed our suspicion that some users find this design a bit perplexing at first. However, it

It's difficult to find fault with the CPU 2.0 feature set, especially if you're a serious user.

appears that it follows standard procedure as implemented by Apple, and any false starts are a result of the limitations of the desktop metaphor itself.

Norton Essentials for PowerBook also includes a synchronization feature. We find that Norton Essentials' implementation is initially more intuitive but less flexible in actual use. Power-to-Go from Claris Corp. and Apple's PowerBook File Assistant (each of which will be reviewed in an upcoming issue) also support synchronization.

EasySync will work only from a PowerBook, which may be a problem to some users who regularly hook their PowerBooks to a desktop Mac in SCSI Disk mode. Symantec's product has a leg up on CPU in this respect: Norton Essentials' SyncIt feature can run on a desktop Mac.

In general, however, if you are looking for full-featured synchronization capabilities, you are better off with a dedicated utility such as PowerMerge from Leader Technologies Inc. or Inline Sync from Inline Software Inc. (see MacWEEK, Jan. 11).



An older item named "CPU 2.0 Review" already exists in this location. Do you want to replace it with the one you're moving?

Sync

Merge

Cancel

OK

With CPU 2.0's EasySync feature, synchronization is automatically enabled when you drag an item from one volume onto an item on another volume. CPU modifies the Finder's Replace or Cancel dialog with this dialog, which includes Sync and Merge buttons.

**Documentation and support**

Connectix includes a 14-page, Version 2.0 addendum to the 1.0 documentation; a completely new manual is planned for later this year. The booklet is remarkably clear and concise. Switching between the two will keep new users busy sorting out this bevy of features, but those upgrading will find everything they need. Connectix provides a toll-free support line and also offers troubleshooting support on CompuServe and AppleLink.

**Decisions, decisions**

It's difficult to find fault with the CPU 2.0 feature set, especially if you're a serious user. Connectix said that it created the new version based on user feedback, but we think the company also carefully evaluated what made competing products competitive. Norton Essentials has file synchronization and less-confusing access to its features, and now CPU can make the same claim.

The original CPU had features not available in Norton Essentials. The Keyboard Power feature, which lets you use the keyboard to access any menu command or dialog button and gives you a choice of three methods of activating menus, is hard to abandon once you've used it. The Adjust Backlight slider, which gives you control over screen brightness, is also nearly indispensable.

CPU 2.0 continues on this path. It provides color support for those using an external monitor or a new PowerBook with color display. Consistent with its extensive support for keyboard use, CPU now maps equivalents for the 15 extended keyboard function keys. Information about network resources such as printers can now be saved with sets. When applicable PowerBooks are running on battery power, CPU automatically switches to 16 MHz.

**Some problems remain**

Any product that interfaces with your Mac as extensively as CPU will hiccup occasionally. The only real problem we're aware of with CPU involves the Duo Express Modem. To function properly, these Duos need Apple's otherwise redundant PowerBook Control Panel installed. Some Duo users have also found that CPU 2.0

doesn't reliably recognize when the machine is docked.

We also have some complaints with CPU's battery-charge reporting. The optional Time Remaining icon is nearly useless (which is generally the case with this type of utility). To gauge remaining battery time, CPU must have first monitored the performance of the battery over the course of a charge. Even then, the values it reports are meaningful only if your use is consistent, which is rarely the case. For battery-charge management, Inline's PBTtools is much more useful. Although PBTtools offers only a subset of CPU's other features, it consumes much less RAM and does not patch system resources.

Claris recently announced a new version of Power-to-Go, which is distinguished from the pack by the inclusion of StuffIt SpaceSaver file compression from Aladdin Systems Inc. Even Apple recently announced PowerBook File Assistant, which will include synchronization, a sophisticated cursor tracker, deferred printing (similar to On the Road from Palomar Software Inc.) and a RAM disk that is automatically copied to disk at shutdown.

**Conclusions**

Choosing among the cadre of PowerBook utility programs really boils down to your choice of feature sets and interface preferences. The ideal approach would be that each of us could assemble a personal product composed of only the features we need. Barring that, CPU 2.0 is a very good value for those who frequently connect to several networks and want the broadest available range of keyboard substitutes for trackball movements. The new version boosts CPU past Norton Essentials for PowerBook as the best of the heavyweight utilities. We still like PBTtools for its simplicity, focus and the fact that its battery-charge tracking seems to be the most accurate of the group, but we also understand that many users want more than a bare-bones power-management utility. For those people, CPU 2.0 is the best of the bunch.

Connectix Corp. is at 2655 Campus Drive, San Mateo, Calif. 94403. Phone (415) 571-5100 or (800) 950-5880; fax (415) 571-5195. □

**SYSTEM 7 COMPATIBILITY****CPU 2.0**

Balloon help	Yes
TrueType	n/a
Publish and subscribe	n/a
Apple events	Yes
32-bit addressing*	Yes

\*According to vendor.



# THE BUDGET ACT O

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### CHANGING THE ECONOMICS OF INFORMATION.





# WestWare's sales pitch gets easy with Contact Ease 2.0

*App's strength lies in scripting sales and follow-up campaigns*

By Steve Hannaford

Contact Ease from WestWare Inc. includes the features of most contact managers such as Portfolio Software Inc.'s Dynodex and After Hours Software's Touchbase Pro, but its capability to script sales campaigns gives it power beyond its competitors. Version 2.0, which lists for \$395, gains speed from a new engine and widens its scope with added features, including a built-in data-synchronization utility, which allows information to be updated to and from a central office and remote Macintoshes.

## Configure with care

Some contact managers, such as Touchbase, include databases that are basically ready to go. Contact Ease, however, offers a range of choices that you can incorporate into your system.

Configuring Contact Ease is not a major programming task, but it does require a lot of logical planning. The program's scripting capability relies on a progression of events that can be determined by the data entered on each of the program's Rolodex-like cards. For this reason, you should analyze your work-flow requirements and define all of your fields before you enter data in them, as they can be difficult to change later.

## It's in the cards

Contacts are entered onto a Rolodex-like set of cards. In addition to the typical address and telephone number fields, you can customize a set of site-specific data fields and check boxes for the database. Each contact can have an extensive (up to 32 Kbytes) note field for specific information.

You can easily import tab-delimited text files of your existing contact databases into Contact Ease. We had little trouble importing a 2,000-record database from Touchbase (the conversion took about 20 minutes on our system) and had similar success importing a smaller database from Dynodex.

Interactions such as phone calls, letters and meetings can be recorded on cards either manually or, in some cases, automatically. You can note whether these interactions have been completed, are on hold or if you are waiting for a return call.

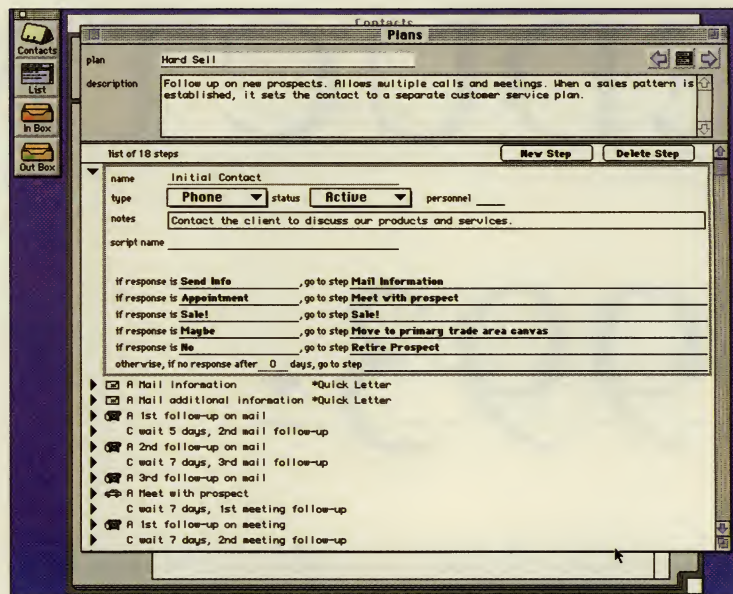
## Don't call us

Contact Ease offers an impressive set of preferences for handling special telephone calling codes (such as MCI), local and international calls, and even modem override. For auto-dialed calls, the program adds a new transaction to your contact record, where it logs in the time and duration of the call and lets you enter information from a set of preselected responses (such as "send more sales information"), or you can add your own comments. There's even a command that resets the modem if it happens to get hung, a common situation with auto-dialing.

For letter writing, Contact Ease has both word processing and mail merge facilities. The word processing software, which resembles Claris Corp.'s MacWrite II, lets you add graphics and even flow text. It's relatively simple to create mail merged letters. You can either consult the manual, which clearly covers this topic, or you can adapt the program's sample mail merge letters. There are also fairly wide options for envelope and label printing.

## The best-laid plans

All of these activities can be automated to a great extent by using Contact Ease's powerful Plans feature. Plans are scripts that let you automate your sales process for each contact, based on a series of logical steps. For instance, you can set up a



plan that has an initial phone call, a follow-up call 10 days later and a variety of conditional steps depending on the contact's response. You can use this feature to generate mail merged letters automatically at specified times and to remind you of scheduled phone calls.

The database has extensive and flexible reporting capabilities. You can generate reports on a variety of marketing segments by using Boolean searches. The capability to perform multiple Boolean searches was a major missing feature in earlier versions of Contact Ease. With Version 2.0, you can specify up to three criteria in a search, which is adequate for most purposes. Reports can also be customized and used with Microsoft Word.

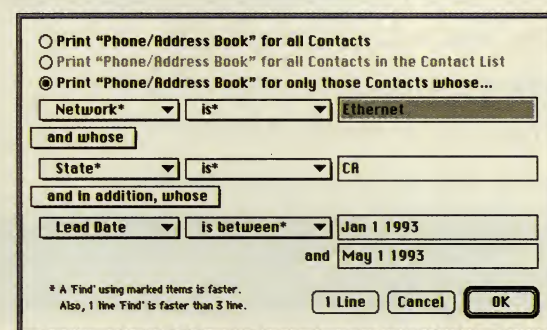
You can create general to-do lists for incomplete or pending items and export them to calendar programs such as Team Building Technologies Inc.'s Agent DA, CE Software Inc.'s Alarming Events or After Hours Software's Datebook Pro.

## New and improved

The speed of Contact Ease 2.0 has been greatly increased, largely because of a new database engine, Sierra Software Innovations Inc.'s Inside Out II. Performance, even in our 2,000-record search on our rather underpowered Mac IIx, was impressive. Even complex Boolean searches took less than 10 seconds, and most searches were nearly instantaneous.

While some database programs suffer from rampant modality — that un-Mac-like feeling that you're trapped in one function until you finish it — Contact Ease's developers have done a good job at avoiding that dead end. Its interface is genuinely Mac-like.

One of the nicer new features of the program is called Smart Windows, which automatically adjusts the screen layout based on your monitor's size. If you have a small screen, the contact information is divided into four cards; if you have



a large screen, you can view an entire record at once.

## CyberSwap

We did not get a chance to test LockServer, the multi-user file-locking facility that prevents two users from updating the same data field at the same time. We did, however, test the new CyberSwap option, which allows remote users to share data with the main database, making it easier for field salespeople and their managers to coordinate contact data.

Using CyberSwap is simple. A tree hierarchy is built with users assigned to sites; each user is assigned a user code and a site code. New users begin using Contact Ease by downloading the master file to their remote systems or PowerBooks. Users of either the main database or the distributed databases can create Change files — which indicate updates made to the database — at any time. These files can be sent by any means, such as modem, and merged into remote data files, where they are updated. Password protection helps guard against unauthorized data transfers.

While this may sound a little involved, CyberSwap is straightforward in practice. It makes sense for organizations where constant, automatic updates aren't needed, but periodic updates of information between main and dependent sites are desired.

## Documentation and support

Contact Ease's manual has good

See Contact Ease, Page 76

One of Contact Ease's most powerful features is the capability to create elaborate sales plans that feature telephone scripts, follow-up letters and branching logic depending on the prospect's response.

At any time, salespeople and managers can generate status reports based on a broad set of search criteria. This feature makes it easy to focus on segments of the prospect list.

## score card

### Contact Ease

WestWare Inc.

Overall value ♦♦♦♦

Version tested: 2.0

List price: \$395\*

The second version of Contact Ease is a mature, solid product. The developers of this sales-contact program have increased the speed and smoothed out a few rough edges, while expanding on the variety of reports and adding other good features. A new feature called CyberSwap allows for regular updating between the central office and salespeople's computers, especially PowerBooks. But the strength of the product lies in its capability to script elaborate sales and follow-up campaigns that feed into scheduling, mail merge and to-do lists semi-automatically. This reliable product may not fit all tastes, but it is configurable enough to suit a wide range of sales plans.

Performance ♦♦♦♦

Ease of use ♦♦♦♦

Features ♦♦♦♦

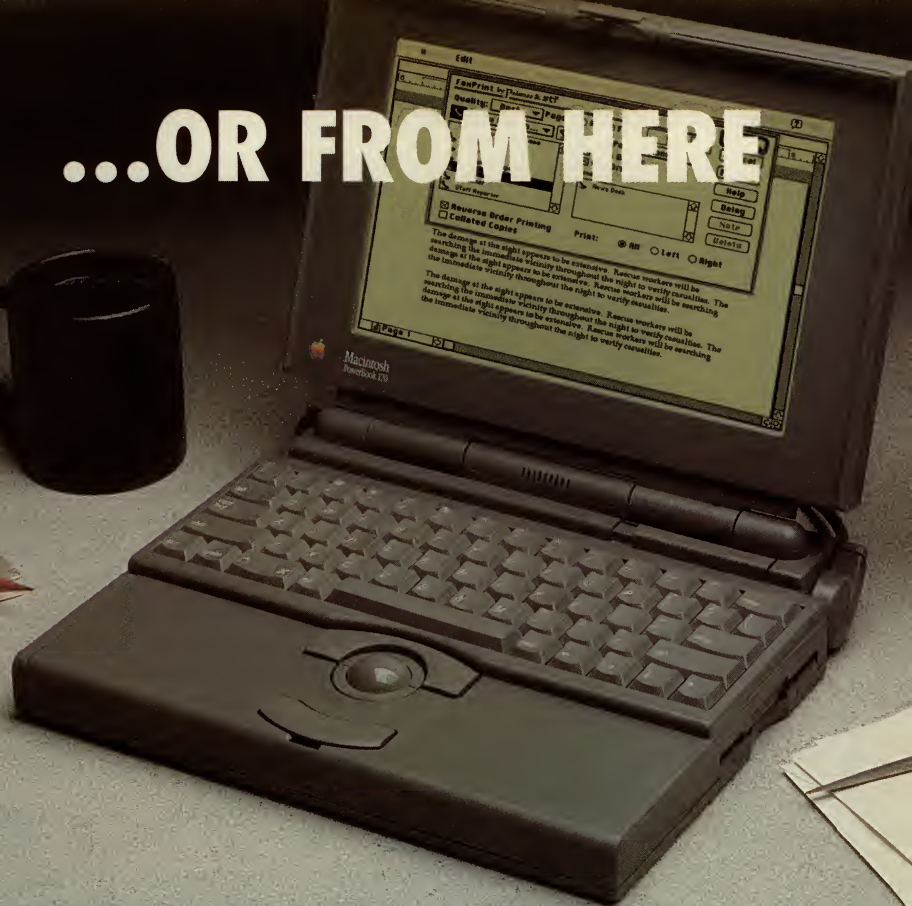
Documentation/support ♦♦♦♦

\* Upgrade from Version 1, \$99; five-user version, \$1,495

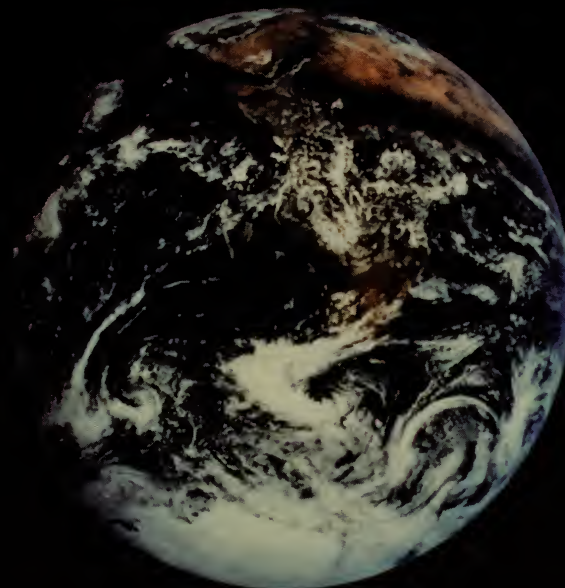


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## IN BRIEF



- ▶ MAP II 1.5
- ▶ FutureBasic
- ▶ On The Air

## MAP II 1.5

*Application provides tools for mapping and analysis*

ThinkSpace Inc.'s MAP II, described by its authors as a "map processor," is an intriguing program that offers valuable mapping and geographic-analysis tools at a bargain price.

The \$395 package, which superficially resembles a simple painting program, actually uses pixel values (shown on screen as grays, colors or patterns) to represent geographic variables such as land use, feature type or elevation. You start by scanning an air photo or map into MAP II and then convert the image into a computer map with a pencil tool. Using the pencil is a painstaking process, but you have no choice because no other drawing tools are offered. You can set a scale so that, for example, one pixel equals 30 meters on the ground.

With this raster-image map you can use powerful spatial-analysis techniques to produce statistical information or new thematic maps. Multiple maps are kept together as a "project" and can be used individually or in combination.

MAP II offers many of the features of a grid-cell-based GIS (Geographic Information System). It includes a set of command-line operators based on the "map algebra" developed by C. Dana Tomlin.

Operators such as Scan, Score and Count can be used to investigate relations and compile spatial statistics. The Warp command allows "rubber-sheeting" to rectify two images (such as an air photo and a map) by selecting tie points and interpolating a new raster image.

If the pixel values in an image represent altitude, you can use a series of terrain analysis commands: Grade

and Orient determine steepness and direction of slope; Radiate computes "viewsheds"; and Drain calculates precipitation runoff directions and amounts. If you're working with registered multispectral images (such as from Landsat satellites), the Recode and Parallel commands allow supervised classification into land-use or similar thematic maps.

To use these powerful operators, you must create a command line by selecting items from scrolling lists of valid operators and maps and then pasting them into an editing box. Available modifiers are automatically added. Although this is a relatively painless way of creating command lines, it would be nice to have on-line help.

In addition to reading PICT, TIFF and SYLK files, MAP II has its own format that can be used to package decimal, binary or hexadecimal data from sources such as Landsat. It can also import DEM (digital elevation model) files from the U.S. Geological Survey.

The interface on MAP II is better than most grid-cell GIS programs on other computer platforms, but it falls short of the Macintosh ideal. Standard Mac drawing tools such as the magnifier, grabber hand, lasso, paintbrush and paint bucket are sorely needed. There are no true layers; whatever is drawn replaces the original pixels. This, combined with only one Undo command and continuous auto-saving, makes free-hand drawing risky.

MAP II's documentation, which includes a reference manual and a tutorial, is very complete and well-written. The 150-page tutorial, specifically designed for classroom use, offers clear instructions for using the program, and it also offers good overall mapping information.

Retail versions of MAP II include a copy of HyperViewKit, a set of HyperCard stacks that helps organize and present MAP II-created maps. With HyperViewKit, a complex hierarchy of images can be organized, then compiled for easy viewing by users who don't have the MAP II program. Because the images are loaded into RAM, they pan and zoom quickly, and the stack can reference images stored in remote locations over a network or on removable media.

Aimed at education and nonprofit organizations, MAP II offers a low-cost entry into serious, scientific map making. Two of the program's authors used it, along with other Mac programs, to produce maps for the World Bank's Lobito Benguela Urban Environmental Rehabilitation Project in Angola.

A package including a limited site license, the reference manual and one tutorial is available to college bookstores for \$115; additional copies of the tutorial are \$24.50.

The number of copies included in the site license depends on the number of tutorials ordered. A single-user package (without tutorial) is \$89.50 to a bookstore or \$131.95 to an individual.

MAP II 1.0 users can upgrade for \$65 without HyperViewKit, or \$110 with it.

Academic users can obtain MAP II from John Wiley & Sons Inc., 605 Third Ave., New York, N.Y. 10158-0012. Phone (800) 225-5945.

ThinkSpace Inc. is at 316 Cheapside St., London, Ontario N6A 2A6, Canada. Phone (519) 661-4006; fax (519) 661-3750.

—By G. Donald Bain

## FutureBasic

*Leader in the Mac market for BASIC development*

Zedcor Inc. has made BASIC language development much more appealing on the Macintosh with its release of the FutureBasic integrated BASIC development environment.

At a list price of \$299.95, FutureBasic is a great leap past Zedcor's previous ZBasic and provides complete support for the different parts of the Mac. All system toolbox calls can be made directly, but several higher-level functions are available to simplify common actions such as accessing resource files and opening windows.

The standard runtime module provides this support and takes up just more than 40 Kbytes of space. A smaller runtime module is also available that takes up only 5 Kbytes but lacks the extra layer above the toolbox.

## Contact Ease

*From Page 74*

illustrations and a troubleshooting section for common problems. The importing procedure is a bit obscure in the manual, however, and the documentation could be more lucid about some of the program's more complex processes, such as CyberSwap.

Technical support was quite good. We called the support line, left a message, got a call a few hours later and were sent a fix with a step-by-step procedure for accomplishing our task.

## Conclusions

Contact Ease 2.0 is a full-featured sales-automation package that gets its muscle from its powerful Plan feature, which lets you script sales campaigns that take advantage of the program's many contact functions. The new CyberSwap data-synchronization feature is a low-tech

Although BASIC has its roots as an interpreted language, FutureBasic compiles code and produces normal stand-alone double-clickable Mac applications. In addition, the system supports the creation of such things as desk accessories, system extensions, control panels, HyperCard externals and other specialized resources.

FutureBasic's integrated development environment doesn't feel as smooth as those of Symantec Corp.'s Think C and Pascal, although it works well. Built-in project-management features track the various elements of a program, and a Cross Reference tool provides rapid navigation around the different sections of the source code. A complete hypertext help system is included, offering help on both specific program actions and code segments that can be copied directly into any program.

The debugger is quite powerful and has many features that ease the debugging process. If its features are not enough, Zedcor has also thrown in Apple's MacsBug debugger with the package for low-level debugging support. Apple's ResEdit program is also included for editing the resource information required by developed programs.

The documentation is good. The Getting Started manual helps new users do just that by walking through three sample programs that demonstrate good structured programming techniques. The handbook and reference manuals provide more in-depth background. There is an exhaustive listing of each available command, along with a code segment showing how each can be used. Advanced programmers will be interested in sections that discuss how to create

but ultimately very elegant method that makes sense given the rhythm of interaction with home and remote offices. With its faster speed, stability and great reporting features, Contact Ease should prove to be a very useful product for many sales- and contract-driven operations.

WestWare Inc. is at 10148 Diamond Head Court, Spring Valley, Calif. 91977. Phone (619) 660-0356 or (800) 869-0871; fax (619) 660-0233. □

## SYSTEM 7 COMPATIBILITY

## Contact Ease 2.0

Balloon help	Yes
TrueType	Yes
Publish and subscribe	No
Apple events	No
32-bit addressing*	Yes

\*According to vendor.

The MAP II operators Recode, Parallel and Combine were used to classify a multispectral Landsat satellite image into a land-use map of the Berkeley, Calif., area. The original image is to the right.





the more advanced resources such as system extensions and control panel items. The manuals do need to be cleaned up a bit, however, as there is a bit too much errata and addendum — the only drawback of the documentation.

The package's retail price may scare away some of its novice target audience, but a competitive upgrade of \$149.95 is available to owners of any of the competing language products. Surprisingly enough, Zedcor considers HyperCard a competing product, so most Mac owners should be eligible for the upgrade. Users of Zedcor's ZBasic product can upgrade for \$99.95.

On the whole, FutureBasic is a very good implementation of BASIC, offering a good way for beginners to learn the whole range of Mac programs. Experienced programmers can accomplish much with the package, although it is a bit rougher around the edges than Symantec's Think products. For development in the BASIC language, FutureBasic is a leader in the Mac market.

Zedcor Inc. is at 4500 E. Speedway, Suite 22, Tucson, Ariz. 85712. Phone (602) 881-8101 or (800) 482-4567; fax (602) 881-1841.

— By R. Bradley Andrews

## On The Air 1.1

*Low-cost program allows path-based presentations*

Meyer Software's On The Air is an entry-level presentation program that offers path-based animation, speaker notes, multiple monitor support and multiple levels of undo. Version 1.1 lists for \$225; upgrades for registered users are \$25.

On The Air requires System 6.0.5 or greater and a color Macintosh. The program can export to QuickTime but cannot import QuickTime movies.

An On The Air presentation consists of a sequence of scenes. Each is visible for a defined length of time, and objects are animated within them. You can add new scenes to the presentation in the Layout window, which displays thumbnails for all of the scenes. Clicking and dragging the thumbnails lets you change the order of the scenes.

You can also edit a scene in the Layout window by double-clicking the thumbnail, which opens an edit window. You can import PICT, PICS and Scrapbook files into a scene and use simple graphic tools

to add text, lines, circles and polygons. A color palette provides access to colors from the system palette — On The Air does not support other color palettes.

Animation parameters — including Motion, Rotation, Appearance and Disappearance — are defined for an object in the Animation Control dialog box. You use a slider to indicate when you want the animation effect to occur in a scene. Motion and Rotation include parameters for adjusting the speed of these effects. On The Air also lets you attach a sound to an animation effect. A Flipping effect is available for objects that are composed of a group of objects. This effect draws each of the objects in sequence, one on top of the other.

You must enable the Motion parameter before On The Air will let you define a path for an object to follow. Once you do this, you can draw the path in the scene by clicking control points.

Simple transitions are provided for moving from scene to scene but not for wiping objects onto a scene. The Undo menu provides a list of the last 10 operations, but if you want to undo an operation three steps back you must first undo the subsequent steps.

A control panel lets the presenter start and stop the presentation, as well as jump from scene to scene by using a pop-up menu. If multiple monitors are attached to the computer, the control window can be placed on one screen and the presentation on another.

Playback performance is very good, and On The Air provides a parameter that increases playback speed by precalculating the animation.

We did notice a couple of minor bugs in the interface; however, none of them interfered with the presentation.

On The Air is an easy-to-use, low-priced presentation program. Its path-based animation capability is similar to that of rival programs such as Macromedia Inc.'s Action! and Gold Disk Inc.'s Astound!, and its capability to export animations to QuickTime is a plus. For the lower price, however, you must settle for a lower level of interactivity (no buttons) and transition effects and fewer features than those found in Action! and Astound!

Meyer Software is at 616 Continental Road, Hatboro, Pa. 19040. Phone (215) 675-3890; fax (215) 675-3873. — By Michael D. Murie

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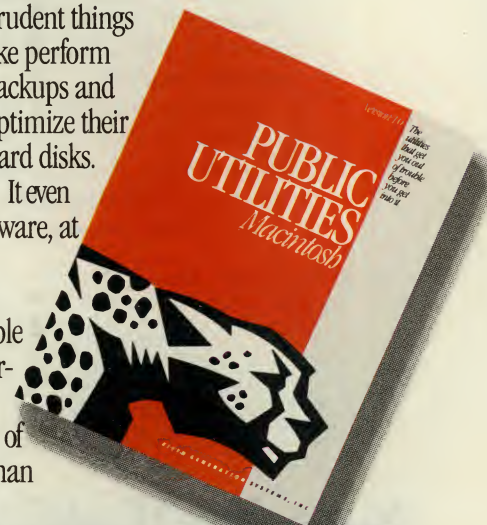
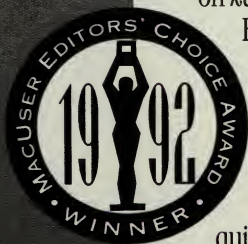
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# Presenting MovieWorks 1.1: Tool interacts with QuickTime

*Once you understand how it operates, this program is fairly easy to use.*

By Michael D. Murie

MovieWorks from Interactive Solutions Inc. is the latest to enter the crowded interactive presentation field. Although the \$99 program is classified as a presentation tool, its greatest strength lies not

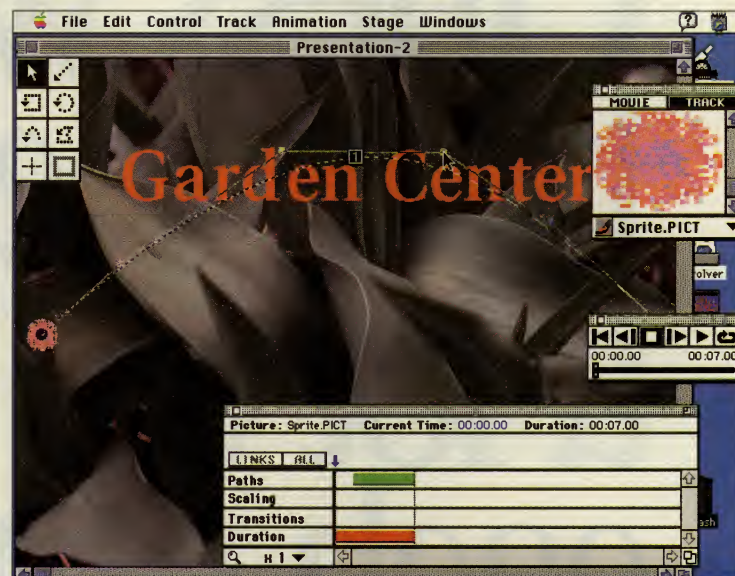
in its creation of traditional slide-based business presentations but in its integration of QuickTime and interactivity as well as the ease with which you can create QuickTime movies.

MovieWorks requires QuickTime and System 6.0.7 minimum. System 7 is required for linking between the applications. A minimum of 4 Mbytes of RAM is required, although you will need more if you are using program linking.

## Four horsemen

MovieWorks comprises four modules: Sound, Paint, Text and Composer. Once you understand how MovieWorks operates, it's fairly easy to create objects using these separate programs, import the objects into a presentation and animate them.

The Sound, Paint and Text editors provide basic features for creating the objects that make up a presentation.



MovieWorks lets you define animation paths by drawing on the Presentation window using path tools from the Tool palette. A curved path is defined by adding a series of control points. The Mediabase window (upper right) can show elements in the presentation.

If you don't already have a painting or sound-editing program, you'll find MovieWorks' Paint and Sound modules useful, but most stand-alone programs offer many more features. The Text module offers only basic text-editing functions.

Objects are brought together and animated in the Composer module. Buttons and special effects such as transitions can be added here to

complete a presentation. You can also import objects that have been created in other applications. If you're running System 7 on your Macintosh, Composer will automatically launch the other three modules so you can edit the imported media.

Composer displays presentations in two modes: In the Compose  
*See MovieWorks, Page 81*

## score card

### MovieWorks

Interactive Solutions Inc.

Overall value ♦♦♦

Version tested: 1.1

List price: \$99\*

MovieWorks is a multimedia presentation tool that uses QuickTime to store and play animations. Once you get past the awkward interface, the program provides a reasonable collection of features. The Sound and Paint editors are not as feature-rich as dedicated editing products, however, and there is no capability for cell-based animation. MovieWorks is not a complete substitute for a full-featured business presentation package or QuickTime video application, but it will appeal to those with an occasional need to create QuickTime animations and interactive presentations.

Performance ♦♦♦  
Features ♦♦♦

Ease of use ♦♦♦  
Documentation/support ♦♦♦

\* \$99 through Aug. 6, \$395 thereafter. Upgrades are free to registered users.

## Name The World's Fastest Car?





# Guess who's been seeing a lot of each other lately?



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## MovieWorks

From Page 79

mode, objects are imported and arranged on screen. To animate an object, you draw an animation path on the screen using tools to create straight lines, curves, circles or polygons. You can draw several paths for an object to move along during the course of the presentation. There is, however, no provision for cell animation (where an object changes its appearance as it moves on the screen). Once an animation path is established, the animation is saved as a compressed QuickTime movie.

In Play mode, the background objects and buttons are drawn on screen, but the QuickTime movie is used to play the animation. This method dramatically improves animation performance, compared with viewing the animation in Compose mode.

The screen size of the QuickTime movie is defined by a bounding box — a rectangle in Composer within which the animation plays. You must adjust this rectangle to include all the objects you wish to animate. If you don't, any object outside the box will not be saved in the QuickTime movie.

When you create a QuickTime

movie, you should be careful that its size, frame rate and action are not so large that it slows down performance on your hardware. Users with lower-level Macs should particularly be aware of this.

While MovieWorks is unique in the way it uses QuickTime to store animation, it should not be confused with QuickTime editing programs such as Adobe Premiere or Avid Technology Inc.'s VideoShop. MovieWorks is not designed for editing existing QuickTime movies.

### On the cutting room floor

You can easily edit an animation by switching back to Compose mode and then making your changes. If you do this, however, you must recompress the movie.

In Compose mode, the Media-base window serves as a catalog of the objects in your presentation. A presentation consists of two kinds of media: the graphic objects and the movies created with those objects. The TimeView window provides a visual representation of objects as they appear in a presentation. You can edit the timing of objects by clicking and dragging a time bar that represents an object's screen time.

MovieWorks also includes a stand-alone Player application that

lets you distribute presentations to others free. The Player doesn't play Composer documents; to save a presentation in Player format you must choose Consolidate from the File menu, which creates a version that the Player can use. The Player document does not include the QuickTime movies used in the presentations, so these must be distributed with the Player document.

### Interface problems

MovieWorks is fairly easy to use, but we encountered a noticeable performance problem when creating presentations. Several times when we were saving or updating presentations, the program took so long to respond that we thought it had crashed.

The user interface needs some work. While the program does not support balloon help, the Paint module has a help palette that performs almost the same function — but none of the other modules has this feature. When you edit attributes or links for an object, the program displays the information for the object selected in the Media-base window, not the currently selected object on the presentation screen. This can cause confusion. When you select Video from the

Import Track menu, MovieWorks imports PICS files, not QuickTime movies. Several of the dialogs resemble the DA/Mover interface, which is not easy to understand.

### Documentation and support

The documentation is adequate but disorganized. While the entire manual is written in a tutorial style, don't let it fool you — head for the back of the book where the real tutorial is. This section could have been expanded to provide a more thorough tour of the product.

The manual suggests that time markers added to sounds in the Sound Editor can be used in the Composer to synchronize animation to sound. However, the current version of Composer does not support this feature.

### Conclusions

MovieWorks fits somewhere in between business presentation and animation programs, offering some but not all of the features of either category. For those users creating interactive presentations, Macromedia Inc.'s Action! and Gold Disk Inc.'s Astound! offer more intuitive interfaces as well as special tools and features. As an animation tool, MovieWorks doesn't offer the fea-

tures found in Macromedia Director or Gold Disk's Animation Works. For instance, while you can move objects along a path in MovieWorks, you cannot create cell-based animation.

MovieWorks is unique, however, in the way it so closely integrates QuickTime and interactivity. If these features appeal to you, then MovieWorks offers a flexible working environment. But if you are interested in more traditional presentation tools, complete with features such as speaker notes, handouts and a wide variety of templates, you should look elsewhere.

Interactive Solutions Inc. is at 1720 S. Amphlett Blvd., Suite 219, San Mateo, Calif. 94402. Phone (415) 377-0136; fax (415) 377-1964. □

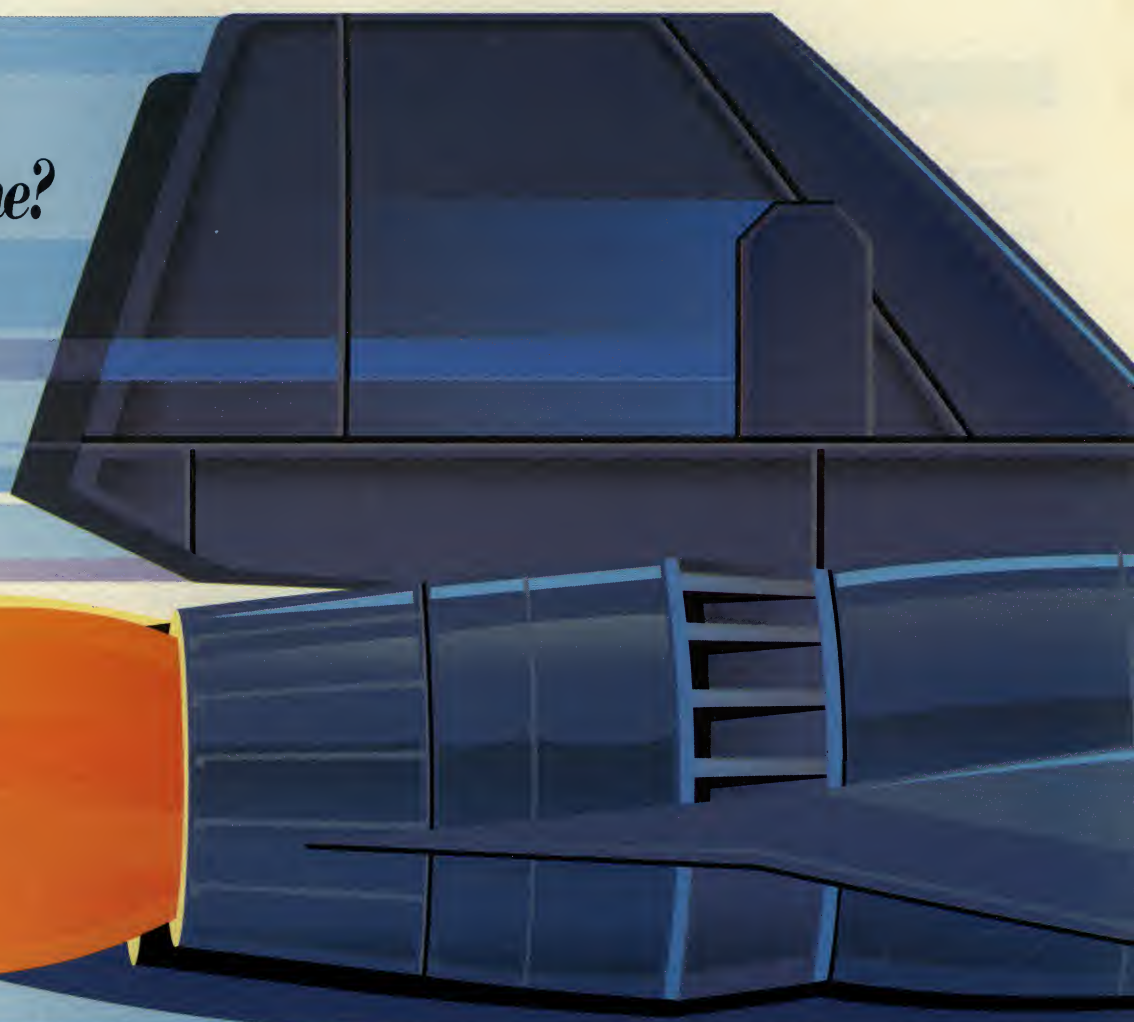
### SYSTEM 7 COMPATIBILITY

#### MovieWorks 1.1

Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events	Yes
32-bit addressing*	Yes

\*According to vendor.

# Name The World's Fastest Airplane?





# Strategic Mapping's new Local Expert knows lay of land, needs help on details

*Utility provides travelers with a collection of maps that feature various levels of detail, but the travel information lacks depth.*

By Jeffrey Sullivan

Strategic Mapping Inc. hopes to put a positive spin on business travel with its new product, Local Expert. This \$99 utility furnishes travelers of all kinds with an on-line personal travel assistant, providing maps and information on restaurants, shopping, recreation, sporting and business topics for many cities worldwide.

## The big picture

Local Expert provides a series of maps at various levels of detail, divided into geographic regions. The standard set of maps covers the entire world at a high level of detail (country to region level) and the United States down to regions such as Southwest Arizona, Central Texas and Southern California. These maps show significant geographical features, cities and major roadways.

With the addition of \$25 City MapSets (more than 100 cities are available worldwide; you get one free with Local Expert), you can zoom maps closer — down to street level for selected portions of each city. Only selected portions are available — those that Strategic Mapping has decided are “major business areas.” Los Angeles, for example, has only three of them: two in Beverly Hills and one near Los Angeles International Airport.

Local Expert supports location searching by name, area code, ZIP code, and latitude and longitude coordinates. Although we encountered a few glitches in the areas we’re familiar with, the results of these searches are predominantly accurate. You cannot, however, search by address.

You can measure the distance between two locations by straight-line reckoning, showing the area within a circle, or measuring segments (for travel by highways).

## Topicality

The feature that moves Local Expert out of the computer-atlas category and into the travel-assistant category is its database of travel-related topics (licensed from Worldview Systems Corp.). The topics contain both relatively static information (such as the location of a stadium) and timely topics (such as art shows, concerts or special events). The timely topics are updated monthly. The more static data is updated at least quarterly in “rolling upgrades.”

Each city has a collection of topics organized under four broad categories:

- ▶ Food, Drink and Entertainment. This category includes almost 40 topics, covering restaurants and bars, art shows, concert halls, theaters, and nightclubs.

- ▶ General and Business Information. This category contains 25 topics, addressing general issues (such as climate, transportation, security and emergency health care); hotels; special events; and business topics, such as messenger services, currency exchange and translators.

- ▶ Sporting Events and Activities. This category offers about 20 topics detailing options for virtually every imaginable sporting event and physical activity.

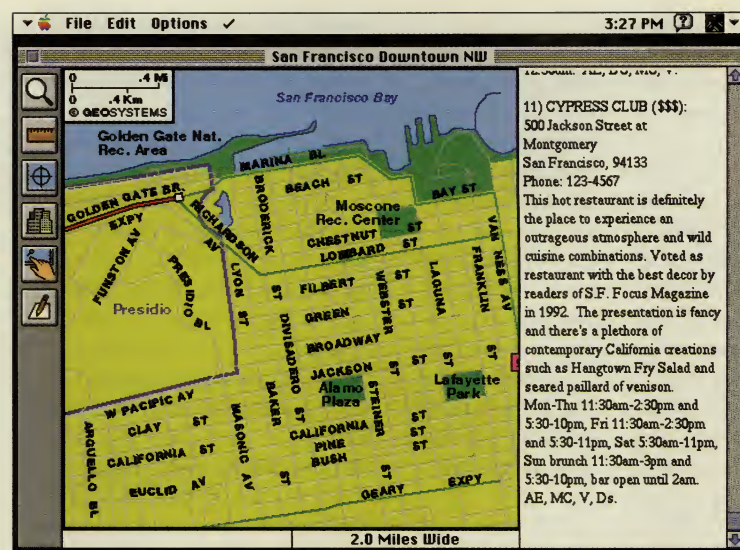
- ▶ Events, Activities and Shopping. This category supplies more than 35 topics on sightseeing, shopping, festivals and events, museums, and children’s activities.

## City search

You can search through a city’s topics for a specific word; for example, you can search for all the topic entries that have the word “golf” in their name. There are seldom more than 10 or 11 entries for a topic, however. This might be acceptable for a topic such as Concert Halls, but not when the topic is American Food. Strategic Mapping has taken the stance that travelers are seldom in a city for more than a week or two, and 10 topics in each category will be more than anyone could exhaust, but it’s the selection that concerns us.

Although we understand that only so many restaurants can be included, the prescreening of listings leaves us hungry for more. We would like to see more numerous and varied listings, perhaps with a beefed-up search mechanism to help users narrow the focus of a search to their preferences, not the tastes of Worldview Systems.

Strategic Mapping offers updates to MapSets for \$15 each (volume discounts are available). It suggests that travelers upgrade three or four times a year, especially for frequent destinations. It is negotiating with several on-line services to provide fee-based MapSet upgrades, which would considerably increase the utility of Local Expert.



Local Expert's street-level maps show a fairly high level of detail. The choice of which neighborhoods receive this treatment, however, is up to Strategic Mapping instead of the user. The choice of which events and businesses are described is also arbitrarily based on co-developer Worldview Systems' taste.

## Problems

Local Expert's interface could certainly use a tuneup. There were a few elements that were nonintuitive or just downright inconvenient. One odd interface element is the Local Expert Tool Group. With this row of buttons, which runs along the left-hand side of the open window, Strategic Mapping has created the visual analog of hierarchical menus. When you pass your cursor over one of the buttons, it changes to reveal as many as four smaller buttons, each of which invokes a command. For example, when you pass your cursor over the Magnify button, it changes to reveal Zoom-In Map, Zoom-Out Map and Zoom to Total World tools.

The Zoom-In tool displays comparable quirks. Once you've zoomed to the level you want, you need to click outside the map area to “clear” the tool. Until you do, no other tools are available. Even when you can't zoom in any further, you must still clear the magnifying glass. Also, while zooming in, you can't zoom out; you have to clear the inward zoom, then choose the Zoom-Out tool. To add insult to injury, the mechanism for finding the result of a location search is different than this mechanism.

## Documentation and support

The Local Expert documentation consists of a pamphlet, which dashes through the available commands in a reference format, and a more extensive on-line help system.

Local Expert's help system, which is strongly reminiscent of the help system in Microsoft Windows, includes hypertext links, an index, and the capability to search through the help for specific words or phrases.

Strategic Mapping provides unlimited toll-free customer support.

Local Expert requires System 6.0.7 and a hard drive. It requires a minimum of 500 Kbytes of RAM and 750 Kbytes of disk space; each City MapSet can take up to 1.2 Mbytes of disk space. (The system we reviewed had five extra MapSets and consumed 11 Mbytes of disk space.)

## Conclusions

Local Expert suffers from some user-interface foibles that should be corrected in future versions. In addition, more efficient compression techniques can reduce the amount of disk space required for a decent set of city maps while increasing the amount of data stored.

Although the concept of an on-line travel guide is an excellent one that many are likely to find useful, the relative paucity of data in Local Expert makes it little more than an interesting technology demonstration at this time. Any decent paperback travel guide will have volumes more information than the corresponding Local Expert module (although possibly less timely) and will probably cost significantly less than the \$25 you'll have to pay for each MapSet.

Strategic Mapping Inc. is at 3135 Kifer Road, Santa Clara, Calif. 95051. Phone (408) 970-9600 or (800) 442-8887; fax (408) 970-9999. □

## SYSTEM 7 COMPATIBILITY

### Local Expert 1.0

Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events	No
32-bit addressing*	Yes

\*According to vendor.

## score card

### Local Expert

Strategic Mapping Inc.  
Version tested: 1.0  
List price: \$99  
Overall value ♦♦

Local Expert aspires to be a comprehensive personal travel assistant for the business and pleasure traveler. It provides a collection of maps that cover the world in various levels of detail and provides greater depth through optional City MapSets. (One is included free with the program.) Unfortunately, the lack of depth in the travel information and the slightly clunky interface of Local Expert conspire to keep it from supplanting the basic paperback travel guide. If Strategic Mapping can improve the selection and provide a better way for users to get updates of time-sensitive information, Local Expert could be a valuable asset for the frequent traveler.

Performance ♦♦♦  
Features ♦♦♦  
Ease of use ♦♦♦  
Documentation/support ♦♦♦



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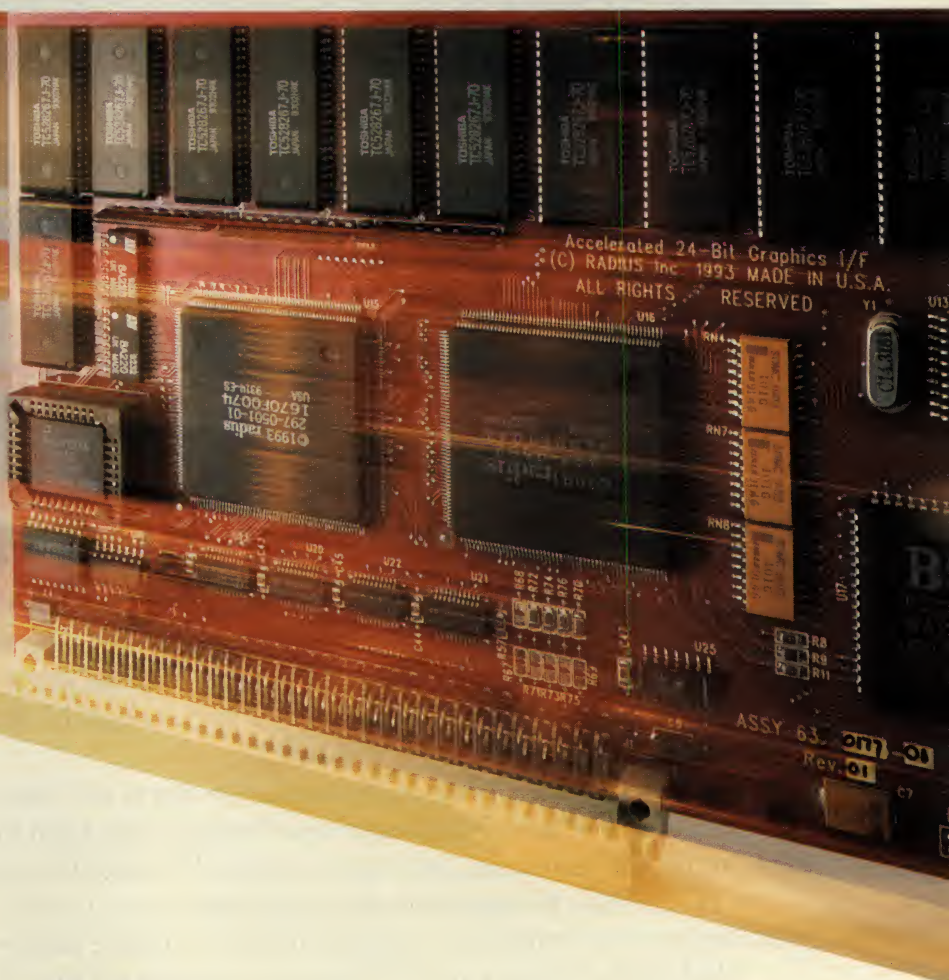
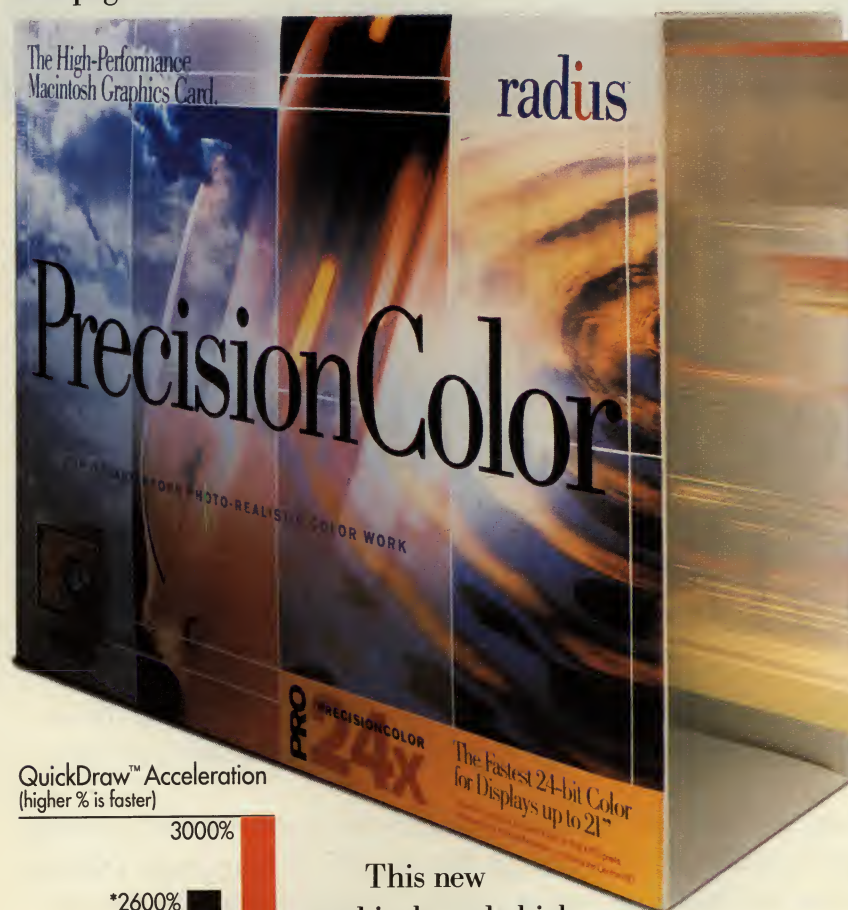
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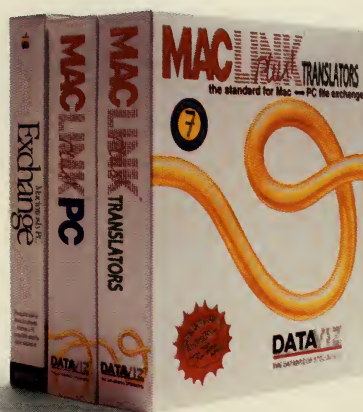
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For years, MacLinkPlus has set the standard for ease of use. And thanks to two new Apple products, what was once easy is now practically effortless. We now include Macintosh PC Exchange™ and Macintosh® Easy Open with every package of MacLinkPlus we ship. Macintosh PC Exchange makes DOS disks appear on the Mac desktop and shows their contents as Macintosh files and folders. New Macintosh Easy Open is a System 7™ extension that helps you open Mac or PC files when the application that created them isn't on your Mac. These technologies from Apple teamed with our translators offer the most complete solution to file transfer and translation available in a single package.

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## Translating non-Mac files: From fringe to mainstream

*Tools for  
converting  
text, graphics,  
CAD and  
font files are  
becoming  
more  
prevalent  
and more  
powerful.*

**By Bob Weibel**

The larger your company and the more clients you deal with, the more likely your work involves sharing files with a non-Mac user. Fortunately, there are a number of products that help you convert Macintosh text, graphics and font files for use on other platforms, and vice versa.

The popularity of Windows and Windows-based software has helped move Macintosh-to-PC file sharing from the fringe into the mainstream. Many people now use the same programs on both platforms. Applications such as Microsoft Excel, Aldus PageMaker, Microsoft Word, Fractal Design Corp.'s Painter and Claris Corp.'s FileMaker Pro sport almost identical features and interfaces on Macs and IBM PCs and compatibles.

Double-clicking someone's PC file on your Mac, however, will quite likely result in a "The document ... could not be opened ..." alert. The same holds true for Mac files for which the creating application is not present. To address that

issue, Apple has released its Easy Open System 7 extension to developers (see story below).

### **Text in line**

Transferring formatted text among word processors is probably the most common business translation task. Although many word processors are capable of reading and writing files from other word processing applications (see story, next page), several vendors have products that specialize in text translation.

MasterSoft Inc. sells several versions of its Word for Word file-translation utility for Macintosh, DOS and Windows, as well as for mainframes and workstations. MasterSoft said it expects to soon begin shipping Version 5.2 of Word for Word/Macintosh. The new version will have dozens of PC translators, including translators for WordStar International Inc.'s WordStar 3.0, Interleaf Inc.'s Interleaf Publisher 1.1 and Lotus Development Corp.'s 1-2-3. Word for Word/Macintosh also includes a set of translators that takes advantage of Apple's Easy Open extension. The



PAMELA HOBBS

Word for Word/Windows version translates MacWrite, Excel Mac 3.0, Microsoft Word Mac and WordPerfect Mac files.

Shirley Buurma, word processing supervisor at KPMG Peat Marwick in Orlando, Fla., has a long history with Word for Word/Macintosh. "It really saved us," Buurma said, recalling the word processing department's transition from IBM DisplayWrite III on IBM PCs to Microsoft Word on the Mac. Buurma said that prior to using Word for Word, file conversion was such a struggle that they often retyped shorter documents rather

than spend time converting them. "Word For Word did a good job preserving document format," Buurma said.

DataViz Inc.'s MacLinkPlus Translators 7.02 includes hundreds of word processing, spreadsheet and database translators and a handful of graphics translators. It ships with the Macintosh Easy Open extension, the first product to do so under Apple's Easy Open licensing.

Mark Kuffler, senior analyst at a New York Fortune 10 company, helps handle computer support for thousands of PC and Mac users. "When you're a company that's spread all over the globe, you get a lot of different file types," Kuffler said. "DataViz's translators, with Easy Open, is a reliable way for people to get their files from point A to point B."

Becky Heren, executive secretary for the financial department at Land O' Lakes Inc. of Arden Hills, Minn., uses MacLinkPlus Translators to swap files between the department's Macs and PCs. "Our department lets people use whatever system or software they want," Heren said. "I have it set up so people can translate their electronic-mail enclosures, which is mainly how we trade files."

### **Graphics tricks**

Equilibrium Technologies Inc. combines graphics conversion, palette optimization and batch processing in its DeBabelizer utility for bit-mapped (raster) graphics (see MacWEEK, June 21). Matthew London, partner at Eden Interactive in San Francisco, turned to DeBabelizer when faced with the

*See Cross-platform, next page*

### **Easy Open and XTND: Translation with a double-click**

Claris Corp. came up with the idea: develop a standard file-translation technology and build it into Mac applications; an application designed with the new file-translation standard could then conceivably use any import-export filter built to the same standard, even those from other vendors. If developers went for it, users would soon have a new level of file compatibility. The idea became real in 1989 under the name XTND, and developers have increasingly built the XTND file-translation architecture into their applications.

This success kindled desires for a Macintosh system-level function similar to XTND. After some fits and starts, Claris and Apple agreed to transfer the XTND file-translation architecture to Apple, which now owns and distributes it, although Claris retains the filters it has developed. The result of Apple's acquisition of XTND is now hitting the Mac desktop in the form of Easy Open, a System 7 extension that brings file translation to the system level.

Apple is not directly distributing the Easy Open extension to end users. Instead, the

company has licensed Easy Open to developers, such as file-translation specialist DataViz Inc., which in turn include it with products. DataViz's MacLinkPlus Translators package Version 7.02 is the first to ship with the Easy Open extension, along with a set of Easy Open translators. You can use DataViz's own translation interface, or you can pull out the DataViz Easy Open disk and install it on your Mac if you're using System 7. Apple's long-term goal is to include Easy Open in a future system-software release.

Easy Open coordinates the file-translation resources installed on your system. It checks all the applications on your Mac, determining from their Open resources which type of files each can open. It also rounds up Easy Open translators you have installed. Then, instead of prompting you with the "The document ... could not be opened ..." alert, it shows you a dialog box offering a list of translation options for the foreign file.

Developers see Easy Open as a boon for both their customers and themselves. "The

object really is to make file translation as transparent and invisible to the Mac user as possible," said Robert Hoxie, product manager at DataViz. "And as a vendor we're left to concentrate on what we do best — writing translators."

That transparency relates strongly to Apple's Mac interface philosophy. "Once people start working on the Mac, they get away from opening documents from within an application," said Mary Harrington, Easy Open product manager at Apple. "They enjoy the ability to double-click on a file at the desktop level and have it launch into the application that created the document."

That habit is so ingrained, said Mark Kuffler, senior analyst with a Fortune 10 company in New York, that most of his Mac users don't realize they must go to the File menu, choose Open and then a translation option when opening a Word for Windows document in Word 5, for example. "That's where MacLinkPlus Translators with Easy Open comes in; it makes life a lot easier," Kuffler said. — By Bob Weibel



## Cross-platform *From previous page*

daunting task of creating a DOS version of a multimedia program titled Greg LeMond's Bicycle Adventure. For the DOS version, Eden used a proprietary movie compression technology from Knowledge Adventure of La Crescenta, Calif., which required an individual Targa file for each frame.

To convert movies from QuickTime, Eden ran a batch process in DeBabelizer that automatically cropped the movie, assigned it a customized 128-color palette, raised overall contrast and converted each frame to a Targa file.

"For palette optimization, DeBabelizer is the best product out there," London said. "In converting 24-bit color to eight-bit, it does a better job than [Adobe] Photoshop and other products." In addition to handling DOS, Windows and Mac bit-mapped formats, DeBabelizer translates files from Atari, Commodore Amiga and Unix computers.

TechPool Software Inc.'s Transverter Pro specializes in translating vector graphics files. Available for Mac and Windows, it has a built-in PostScript RIP (raster image processor) that can generate Mac PICT previews for PC Encapsulated PostScript files. The Mac version generates TIFF or WMF (Windows Metafile Format) previews for Windows. Transverter Pro can convert color PostScript files and PostScript print-to-disk files to Adobe Illustrator, PICT, CGM (Computer Graphics Metafile) and WMF. It can convert files among these formats, as well. It can also convert these vector graphic formats into raster formats such as TIFF, Windows bit map, Targa, GIF (Graphic Interchange Format), PCX and PICT.

In publishing the Cognizer Almanac, which covers emerging technologies, Colin Johnson, president of Cognizer Co. of Portland, Ore., never knows what kind of

computer graphic or screen shot he'll get from clients. To make life easier, Johnson uses PICTure This from FGM Softworks Inc. PICTure This 2.0 converts 24 graphics formats from seven different computer systems into PICT or PICT2 format. "We chose it originally," Johnson said, "because there were a few formats that only PICTure This could handle, such as Apollo GPR and OS/2 BMP." Johnson said that on at least three occasions, FGM has written custom translators, free of charge, to augment the translators it was shipping. "You just send [FGM] a copy of [the format you want to convert], and [it will] figure it out for you," Johnson said.

Although most translations occur in only one direction, the beauty of PICTure This is simplicity, Johnson said. "Whenever we get a new file, we just drag it onto PICTure This and it instantly turns into PICT. You can train a monkey to do it," he said.

Version 2.01 of PICTure This, set for release at press time, will include a software interface that makes PICTure This translators available to Easy Open, Apple XTND and Canvas.

### CAD to the bone

CAD files can be huge, with hundreds of drawing layers and tens of thousands of drawing elements, so it's no surprise that specialized CAD conversion programs exist on the Mac. Given the highly collaborative nature of engineering and industrial design, Mac CAD users will almost inevitably end up working with files from PCs and other systems. AutoCAD, a popular Mac CAD program from Autodesk Inc. of Sausalito, Calif., for example, originated and is still very widely used on the PC.

The CGM format is an American National Standards Institute/International Standards Organization standard that is widely used in CAD, especially in U.S. government contract work. MetaPICT from GSC

## Cross-platform filters handle the translation for you

Without spending a dime on third-party translators, you may still be able to open foreign files. Many popular Mac programs have built-in translation filters. Just use the Open dialog box under your application's File menu to see which translation options are available. Some programs also let you install more filters, so check a program's documentation to see if you can update its filters.

To give you an idea of what to expect, here are the built-in Mac-to-PC and PC-to-Mac file-translation capabilities of some applications.

► **Aldus PhotoStyler (Windows):** Mac TIFF, EPS, JFIF (JPEG File Interchange Format).

► **Fractal Design Painter for Windows:** PICT, TIFF, RIFF (Painter native format).

► **Fractal Design Painter for Mac:** TIFF, RIFF, PCX, BMP.

► **PageMaker 5.0 Mac:** PCX, TIFF, BMP, WMF, PageMaker Windows.

► **PageMaker 5.0 Windows:** MacPaint, PICT import, RTF export, TIFF, PageMaker Mac.

► **Adobe Photoshop 2.5 Mac:** Pixar, PCX, Scitex CT, EPS, TIFF, GIF, Targa.

► **Adobe Photoshop 2.5 Windows:** EPS, Pixar, MacPaint, PixelPaint, Photoshop 2.5 Mac.

► **Microsoft Excel Mac:** Excel 3.0, 2.1 (Windows); Lotus 1-2-3; DIF; dBASE 2, 3, 4.

► **Microsoft Works 3.0 for Mac:** Microsoft Word 2.0 (DOS, Windows); Word for Windows 1.x, 2.x; WordPerfect 5.x; Microsoft Word 5.x (DOS); Microsoft Works (DOS, Windows); Multiplan SYLK; Lotus 1-2-3; Microsoft Excel 2.2, 3.0; RTF.

► **Microsoft Works for Windows:** RTF.

► **Microsoft Word for Windows:** Word for Mac 4.x, 5.x; RTF; Excel 3.x, 4.x (Mac and Windows).

► **Microsoft Word 5.0 Mac:** Word for DOS 5.x; Excel 3.x, 4.x (Windows and Mac); Word for Windows 1.x, 2.0; WordPerfect 5.x (DOS, Windows); RTF; RTF/DCA (DisplayWrite).

► **FileMaker Pro 2.0 Mac:** FileMaker Pro 2.0 Windows, SYLK, DBF (dBASE), DIF, WKS (Lotus 1-2-3 Version 1A file extension), EPS, TIFF, many others via third-party XTND filters.

► **FileMaker Pro 2.0 Windows:** FileMaker Pro 2.0 Mac files, SYLK, DIF, PICT, MacPaint, EPS, TIFF.

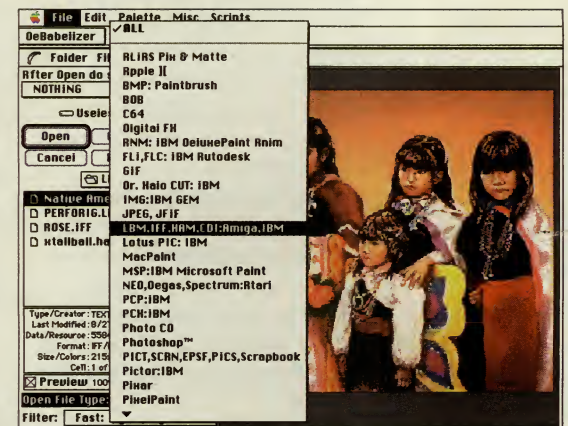
► **ClarisWorks for Windows:** SYLK, DIF, RTF, PICT, TIFF.

► **ClarisWorks for Mac:** Microsoft Word (DOS), WordPerfect 4.2 to 5.0 (DOS), SYLK, DIF, EPS, GIF.

► **MacWrite Pro:** DCA, Microsoft Word (DOS), EPS, TIFF, RTF, WordPerfect (DOS), many others via third-party XTND filters.

Associates Inc. translates CGM files (based on the 1986 specification) into PICT. GSC's other utility, GraphPorter, is a Chooser-level driver that converts graphics files, such as PICT, from most popular Mac drawing and presentation programs into CGM.

St. Louis-based McDonnell Douglas Corp.'s design department must provide CALS (Computer-aided Acquisition and Logistics Support)-compliant CGM files for government contracts. "Our graphic artists have standardized on Macs and use a variety of graphics tools," said technical specialist John Stoll. "We've used GraphPorter to get CALS-compliant CGM files from the Mac out to other systems, usually PCs, where we do document composition."



One of the reasons for using a specialized CGM translator is the nature of CGM itself, a standard that is often interpreted too loosely by software vendors. Steve Carson, president and senior engineer of GSC Associates, said that MetaPICT is designed to deal with this situation. "Part of our QA (quality-assurance) process involves running files from about 40 different vendors," Carson said. This helps maintain a high degree of CGM compatibility.

Engineered Software offers its PowerDraw Translator both as a stand-alone utility and as import filters for its Macintosh PowerDraw CAD program. PowerDraw Translator imports and exports among PowerDraw, AutoCAD DXF (Drawing Interchange File), Adobe Illustrator and PICT formats. It can also import HP-GL, MacDraw and MacDraw II, and Claris CAD files.

James K. McClanahan, president  
See Cross-platform, Page 88

Although it wins no beauty awards for its interface, DeBabelizer is perhaps the most powerful graphics translator available.

## Making the connection without expensive networks

Although larger companies often connect Macs and IBM PCs and compatibles via networks, many workgroups can't afford that luxury. Fortunately, there are other ways to transfer files between PCs and Macintoshes.

Of course, "sneakernet" is the simplest way to exchange files without a network, and it doesn't get any cheaper than Apple File Exchange, a utility that ships with Mac system software. Apple File Exchange lets Mac 1.4-Mbyte SuperDrives read from and write to 3.5-inch PC floppies and offers some rudimentary file-conversion options. Unlike Mac disks, however, PC disks don't appear as icons on the Mac desktop. Apple's \$79 Macintosh PC Exchange control panel goes a bit further, letting you drag files and folders

between the Mac desktop and 3.5-inch PC floppies as you would any mounted volume.

Dayna Communications Inc.'s DOS Mounter 3.0, Insignia Solutions Inc.'s AccessPC 2.0 and Argosy Software Inc.'s MountPC control panel from its Software Bridge/Mac product go further, letting you also mount DOS 5.25-inch disks and SyQuest removable cartridges. All these products will let you associate three-letter DOS file-name extensions, such as .DOC, with a Mac creator code wherever relevant. Microsoft Word for DOS' .DOC files, for example, could automatically be associated with the WDBN file type of Word 4.0 on the Mac and bear that program's icon.

Formatter Five from Software Architects Inc.

is more elaborate. It lets the Mac mount and read DOS-formatted media, including hard drives and magneto-optical and SyQuest disks. Formatter Five Pro can initialize the above media in Mac, Scitex or DOS formats.

On the PC side, Mac-In-DOS 2.0 for Windows and Mac-In-DOS 2.0 for DOS from Pacific Microelectronics Inc. and PLI's Mac-to-DOS allow PC users to read from, write to and format Mac 3.5-inch, 1.44-Mbyte disks.

DataViz Inc.'s MacLinkPlus PC and Traveling Software Inc.'s LapLink Mac III take connections a step beyond sneakernet, allowing users to transfer files via a serial cable connected between a Mac and PC. Both programs also include an assortment of file translators. — By Bob Weibel





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## Cross-platform

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of Mining Information Systems of Abingdon, Va., has used PowerDraw Translator and now uses the PowerDraw Translator External, which translate files directly in PowerDraw. "A lot of my clients submit drawings in DXF format," McClanahan said. "I get DXF files with 20 or 30 layers, including 20,000 to 30,000 drawing parts, and PowerDraw Translator doesn't miss a beat." McClanahan said that other products he tried weren't as accurate as PowerDraw Translator, losing layers and occasionally the alignment of parts. "They weren't treating DXF files like CAD drawings, and the conversion wasn't really something I could work with," he said.

Brian Huculak, landscape architect and associate of Durante & Partners in Vancouver, British Columbia, said PowerDraw Translator is one of the best translators he's seen, citing its accuracy and versatile export options. "In exporting DXF, we have the option to save only visible layers or selected objects," Huculak said. "DXF files can be huge, and since the consultants we work with need only our new information, I don't have to fiddle around deleting drawing layers they don't need."

Another CAD conversion product with a wide range of translations is CADMover by Kandu Software Corp. In addition to CGM, DXF, PICT, HP-GL, Adobe Illustrator and several 3-D formats, CADMover converts the IGES (Initial Graphic Exchange Specification) format, commonly used in computer-aided manufacturing.

## Letter-perfect

You've got a library of Macintosh PostScript and TrueType outline fonts, but your new partner uses a PC? You can easily convert font resources between PCs and Macs, thanks to font-conversion utilities such as Ares Soft-

ware Corp.'s FontMonger and Altsys Corp.'s Metamorphosis Professional. These programs handle conversions between many font formats on the Mac, including Type 1, Type 3 and TrueType. FontMonger, available for Mac and Windows, converts between Mac and PC, and vice versa. Metamorphosis Professional runs on the Mac and can convert Mac fonts to PC formats.

As a side effect of Mac-to-PC conversion, both programs remove a font's hinting data — custom information that improves font rendering at lower resolutions — and replace it with automatic hinting. Both vendors claim that their automatic hinting improves existing hinting. If you're uncomfortable with that feature, Ares plans to release FontHopper by the end of July for about \$65. FontHopper simply converts fonts between PCs and Macs without altering any font data. This stripped-down package lacks the other format conversions and font manipulation features of FontMonger.

Bear in mind that converting a licensed font to another format doesn't make it yours, however; the font's license still applies, as do copyright laws. "As long as the converted font is for your personal use or used in a company logo, for example, there's no problem," said Kevin Wandryk, director of type business at Adobe Systems Inc. of Mountain View, Calif. However, according to Wandryk, you can't sell it, post it or otherwise make money from the converted file. Essentially, your license agreement with Adobe applies equally to a converted font.

## Universal diversity

As more-seamless file-translation and work-group integration solutions become available, smooth file interchange among platforms is replacing expectations of desktop standards. However, solving the file-translation hurdle may take us down field to other problems.

"File-translation improvements have

moved us toward new problems, such as fine formatting and font matching," Kuffler said. "In the long run, our company is studying more-uniform methods of electronic document distribution, such as Adobe Acrobat."

Interchange standards such as Standard Generalized Markup Language also promise to erase compatibility barriers among platforms and applications (see MacWEEK, June 21). □

## Product Info

## ALTSYS CORP.

**Metamorphosis Professional:** \$149

269 W. Renner Parkway, Richardson, Texas 75080

Phone (214) 680-2060 or (800) 477-2131;

fax (214) 680-0537

## ARES SOFTWARE CORP.

**FontMonger 1.5.9:** \$149.95

565 Pilgrim Drive, Suite A, Foster City, Calif.

94404

Phone (415) 578-9090 or (800) 783-2737;

fax (415) 378-8999

## ARGOSY SOFTWARE INC.

**Software Bridge/Mac:** \$159

113 Spring St., Fifth Floor, New York, N.Y. 10012

Phone (212) 274-1199; fax (212) 431-6567

## DATAVIZ INC.

**MacLinkPlus Translators 7.02:** \$169

**MacLinkPlus PC:** \$199

55 Corporate Drive, Trumbull, Conn. 06611

Phone (203) 268-0030 or (800) 733-0030;

fax (203) 268-4345

## DAYNA COMMUNICATIONS INC.

**DOS Mounter 3.0:** \$89.95

849 W. Levoy Drive, Salt Lake City,

Utah 84123

Phone (801) 269-7200; fax (801) 269-7363

## ENGINEERED SOFTWARE

**PowerDraw Translator 3.0:** \$275

**PowerDraw Translator 3.0 External:** \$249

615 Guilford-Jamestown Road, Greensboro, N.C. 27419

Phone (919) 299-4843; fax (919) 852-2067

## EQUILIBRIUM TECHNOLOGIES INC.

**DeBabelizer 1.5:** \$299

475 Gate 5 Road, Suite 225, Sausalito, Calif. 94965

Phone (415) 332-4343 or (800) 524-8651;

fax (415) 332-4433

## FGM SOFTWARES INC.

**PICTure This 2.0:** \$149

131 Elden St., Suite 308, Herndon, Va. 22070

Phone (703) 478-9881 or (800) 783-7428;

fax (703) 478-9883

## GSC ASSOCIATES INC.

**MetaPICT 2.0:** \$179

**GraphPorter 1.1:** \$169

13254 Jefferson Ave., Hawthorne, Calif. 90250

Phone (310) 675-2093; fax (310) 675-2159

## INSIGNIA SOLUTIONS INC.

**AccessPC 2.0:** \$99.95

526 Clyde Ave., Mountain View, Calif. 94043

Phone (415) 694-7600 or (800) 848-7677;

fax (415) 694-3705

## KANDU SOFTWARE CORP.

**CADMover 3.4:** \$495

131 Great Falls St., Suite 100, Falls Church, Va. 22205

Phone (703) 532-0213; fax (703) 533-0291

## MASTERSOFT INC.

**Word for Word/Macintosh 5.2:** \$149

(single-user); \$599 (10-user)

6991 E. Camelback Road, Suite A320, Scottsdale, Ariz. 85251

Phone (602) 277-0900 or (800) 624-6107;

fax (602) 970-0706

## PACIFIC MICROELECTRONICS INC.

**Mac-In-DOS 2.0 for Windows:** \$249

**Mac-In-DOS 2.0 for DOS:** \$199

201 San Antonio Circle, Suite C250, Mountain View, Calif. 94040

Phone (415) 948-6200; fax (415) 948-6296

## PLI

**Mac-to-DOS:** \$179

47421 Bayside Parkway, Fremont, Calif. 94538

Phone (510) 657-2211 or (800) 288-8754;

fax (510) 683-9713

## SOFTWARE ARCHITECTS INC.

**Formatter Five:** \$150; \$195 with

DOS Mounter 3.0

**Formatter Five Pro:** \$495

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Phone (206) 487-0122; fax (206) 487-0467

## TECHPOOL SOFTWARE INC.

**Transverter Pro:** \$249

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## TRAVELING SOFTWARE INC.

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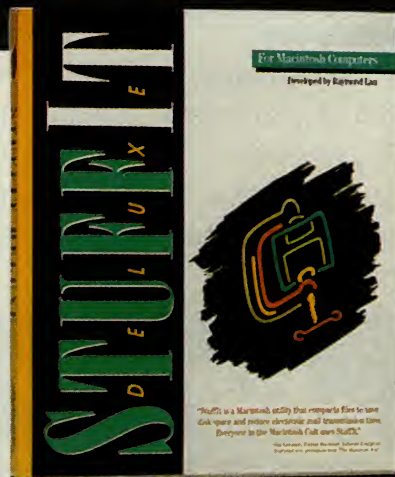
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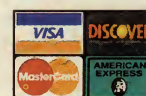
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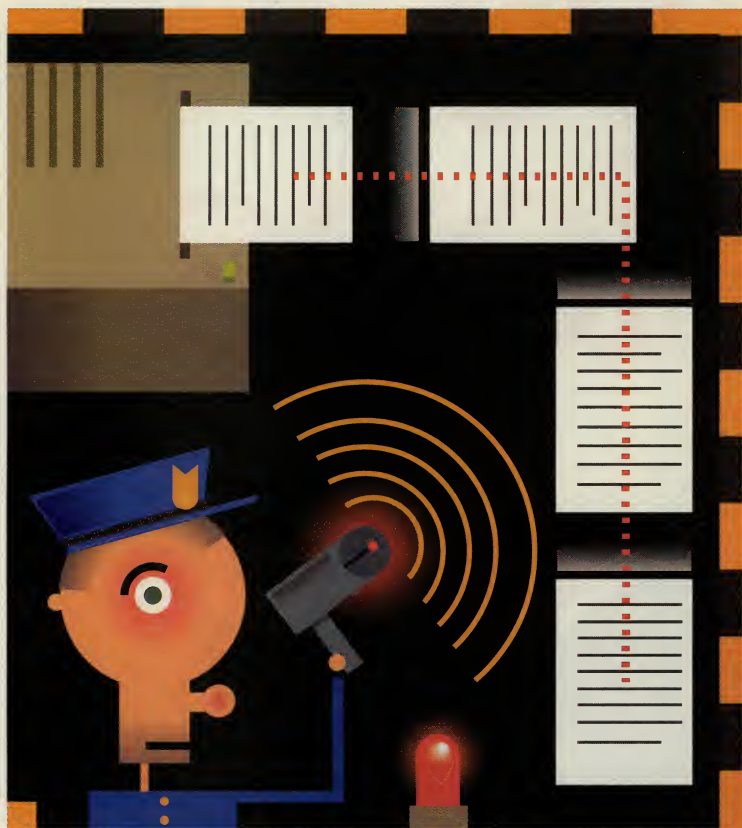


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GORDON STUDER

MacInTouch RIC FORD

## Checking performance of printer drivers

We continue this week to check out LaserWriter 8.0, looking at its features and its effects on performance with standard Level 1 PostScript printers.

### PRODUCTS

#### Speed check

Following up on last week's column about LaserWriter 8.0 and related printer drivers, I ran a few performance tests on two Level 1 PostScript printers, a QMS PS-810 and an Apple Personal LaserWriter NT. The results are encouraging.

In the tests, LaserWriter 8.0 performed a little faster than LaserWriter 7.1.2 for typical business tasks, shaving about 10 percent to 20 percent off the times for printing with PostScript fonts, TrueType fonts and QuickDraw objects.

Printing PostScript objects from Adobe Illustrator showed no clear gains or losses. Some tests ran a little slower with LaserWriter 8.0, and others ran a bit faster.

A 300-dpi, gray-scale photograph,

saved as a PICT file, printed more slowly from Adobe Photoshop 2.5 with LaserWriter 8.0 than with the older driver, but it printed with reasonable speed in both cases.

Apple's TeachText and Picture Compressor applications when printing the same photograph showed a dramatic increase in printing speed with the new printer driver. These programs printed the picture through LaserWriter 8.0 about as fast as Photoshop did, but switching back to LaserWriter 7.1.2 doubled the amount of time it took to get the image onto the page.

Although these tests are not comprehensive, they indicate that LaserWriter 8.0 should provide modestly better overall performance than LaserWriter 7.x for PostScript Level 1 printers. Certain tasks will realize more impressive gains with

these printers, and PostScript Level 2 printers will do even better.

#### Playing catch-up

Many features of LaserWriter 8.0 and PSPrinter 8.0 appeared previously in Don Markuson's LaserWriter Stuff, a freeware package of utilities for customizing earlier LaserWriter drivers (see MacWEEK, April 6, 1992, and Dec. 7, 1992).

Markuson's modified drivers offer "n-up" printing (to image multiple pages on one sheet of paper), and his feature is more flexible than the implementation in LaserWriter 8.0. It also appears in a more convenient place: the Print dialog, rather than the Page Setup dialog.

Markuson did a lot of work to facilitate moving PostScript files from the Mac to other computers, but LaserWriter 8.0 has gone even further, with a whole set of controls when printing to a file instead of paper.

Like Markuson's custom drivers, LaserWriter 8.0 can coexist peacefully with different printer drivers used by other Macs on the network, avoiding the "printer reset wars" that were a hassle in the past.

The new Adobe Systems Inc./Apple driver, however, lacks Markuson's support for attaching printers via a serial port, and it offers no option for installing a minimal driver file to save space. LaserWriter 8.0 and one PostScript Printer Description (PPD) file take up more than 500 Kbytes of disk space.

On the positive side, LaserWriter 8.0 introduces new performance features, such as compression, modular printer support via PPD, PostScript Level 2 and the ability to create Encapsulated PostScript files. These features are simply unavailable with earlier LaserWriter drivers.

Markuson has positive comments about the new Apple/Adobe software, and he has no immediate plans to release a Version 8.0 of LaserWriter Stuff, although he is still investigating various areas of the printing software.

#### Compatibility check

The read-me file included with LaserWriter 8.0 contains some important information, including a bundle of compatibility issues apparently identified during Apple's and Adobe's testing.

One item of particular note is the new driver's effect on margins: LaserWriter 8.0 will print closer to the edges of the page with many printers, changing line endings and formatting, depending on the nature of the document. This cannot be changed in many PPDs, but you can select the default Generic PPD instead of a specific description file to emulate older margins.

Another problem with the design

### Ask David Ramsey

## Becoming an Apple developer

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The best way to check for a PBX is to ask someone who would know — the maintenance or MIS people at your business or the manager at a hotel.

You can also look for common PBX signs such as a separate power supply for the phone, number buttons that all play the same tone and dedicated keys for special functions.

*Please send questions to David Ramsey on CompuServe: 76702,335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.*



is the driver's insistence on having on-line access to the printer before it permits the user to configure parameters, including the choice of PPD. This could be annoying for PowerBook users away from the office.

Markuson notes a few other changes in LaserWriter 8.0. Unlike earlier drivers, it works only in the foreground when printing to a PostScript file or an EPS file, even if the background option is checked. And font substitution now occurs even

with fractional widths enabled, in contrast to LaserWriter 7.x.

#### Final piece

Apple's Installer script for LaserWriter 8.0 ignores one component of the printing software for some reason. You must manually drag LaserWriter Utility 7.4.1 from the Printing Tools folder on floppy disk to your hard disk. The application provides a whole set of useful functions for configuring printers. □



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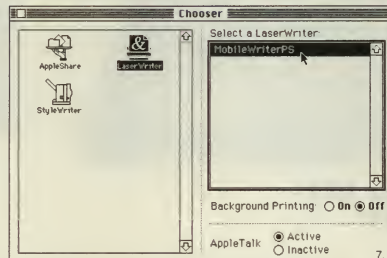


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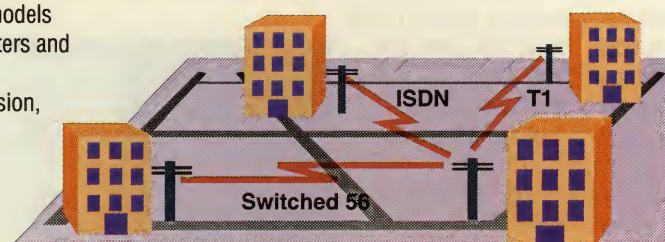
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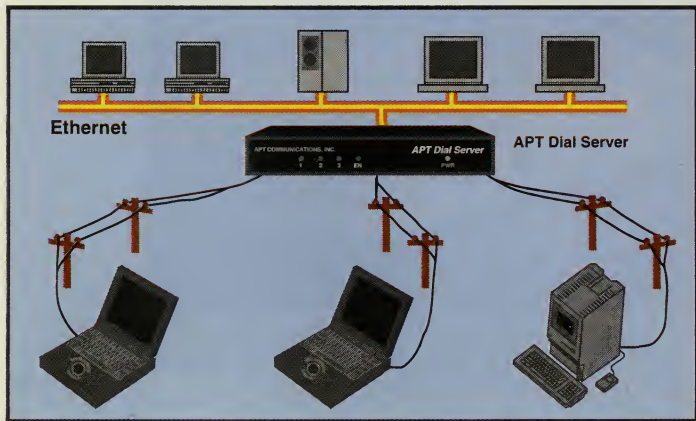
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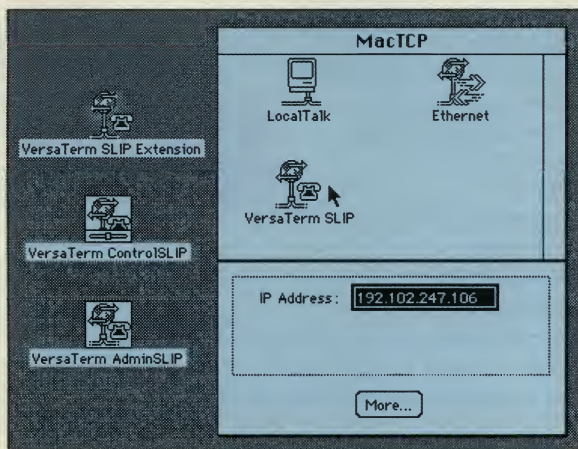
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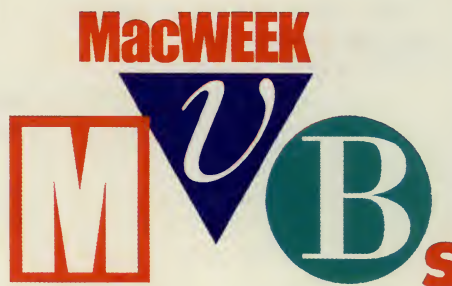
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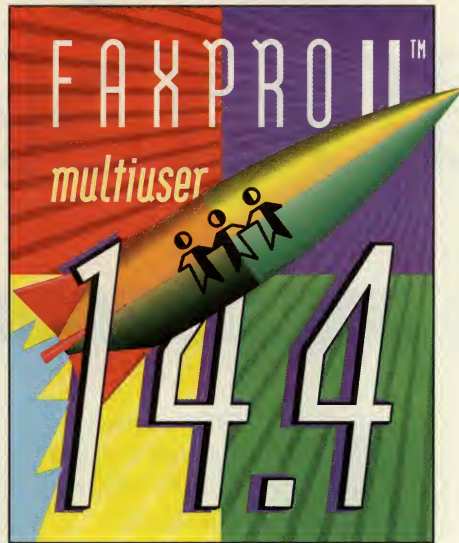


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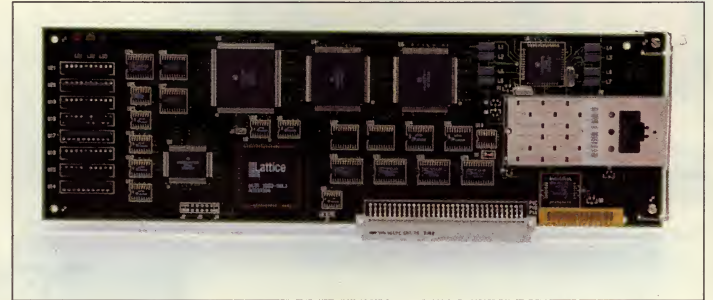


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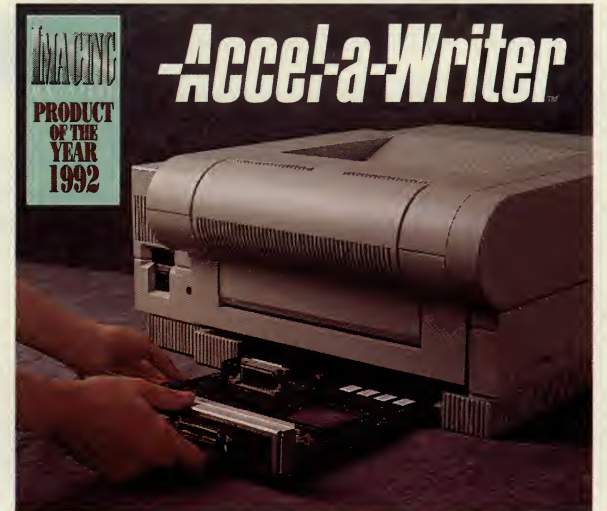


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**\$2,214** Lease **\$81<sup>92</sup>**  
a month<sup>1</sup>

## The VIP Package

### Quadra 800 24/520

24 MB Memory  
520 MB Hard Disk Drive  
ETC PowerGlide Ext. Keyboard  
20" Trinitron Display System  
Turbo 24 bit accelerated video



**\$8,389** Lease **\$239<sup>02</sup>**  
a month<sup>2</sup>

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ETC DataFlow LC (Tn & 10T)	\$185
ETC DataFlow 10BaseT	
12-Port Hub	\$529
ETC DataFlow Repeater	\$339

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<b>Quantum</b>		
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127MB ELS	\$215	\$275
170MB ELS	\$235	\$295
240MB LPS	\$319	\$379
525MB LPS	\$829	\$889
1050MB	\$1119	\$1179
1225MB LPS	\$1249	\$1309

### Fujitsu

425MB	\$849	\$889
520MB	\$799	\$869
1.2GB	\$1229	\$1359
1.7GB	\$2098	\$2198

### Toshiba

877MB	\$1089	\$1155
1.2GB	\$1399	\$1499

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#### Texas Instruments

MicroLaser PS17	\$1139
MicroLaser PS35	\$1269
MicroLaser Turbo	\$1459
AppleTalk Interface Kit	\$50

#### Apple

LaserWriter Select 310	\$1049
Personal LW NTR	Call
LaserWriter IIfx	Call
LaserWriter Pro 600	\$2010
LaserWriter Pro 630	\$2405

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DEClaser 1152 \$1079  
Comes with Level-2 PostScript, toner cartridge,  
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BLP IIs	\$1749
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QMS PS-815	\$2999
QMS PS-825	\$3499
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HAMMERHEAD	\$3999
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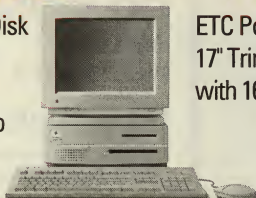
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20" Trinitron Display System  
Turbo 24 bit Accelerated Video



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a month<sup>2</sup>

### Professional

#### Mac II VX 8/230

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17" Trinitron Display System  
with 16 Bit Color



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DataBase, Spreadsheet, &  
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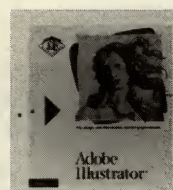
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Video Spigot CALL

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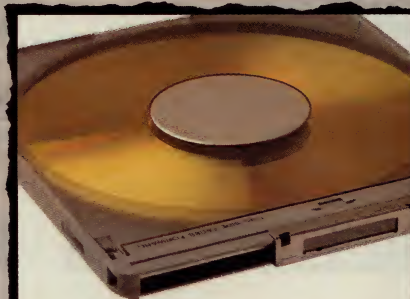
US Robotics Sportster 14.4/14.4	\$249
Supra Fax Modem 14.4/14.4	\$299
Supra PowerBook Modem 14.4/14.4	\$299
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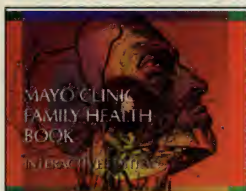
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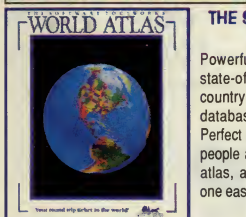
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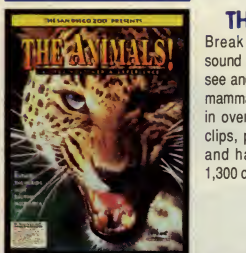
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240mb	10ms	\$309	\$369
525mb	10ms	\$719	\$779

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170mb	17ms	\$225	\$285

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1.2GIG	10ms	\$1169	\$1229



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WARRANTY**

Unformatted Capacity	Model	Access Time	Actual MAC Capacity	Internal	External
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212mb	7213S	15ms	202mb	\$275	\$335
240mb	7245S	15ms	235mb	\$309	\$369
540mb	MXT-540	8.5ms	521mb	\$859	\$919
<b>LXT &amp; MXT SERIES (3.5" HALF HEIGHT)</b>					
340mb	LXT-340	15ms	324mb	\$469	\$529
1240mb	MXT-1240	8.5ms	1150mb	\$1319	\$1379

# Seagate



Unformatted Capacity	Model	Access Time	Actual MAC Capacity	Internal	External
<b>3.5" HALF HEIGHT</b>					
1.2GIG	ST11200N	10.5ms	1000mb	\$1029	\$1089
2.4GIG	ST12400N	9ms	2000mb	\$2195	\$2255
2.4GIG	ST12550N Barracuda	8ms	2050mb	\$2449	\$2509
<b>5.25" FULL HEIGHT</b>					
1.6GIG	ST41651N	Wren-8	1350mb	\$1279	\$1379
2.1GIG	ST42100N	Wren-9	1900mb	\$1629	\$1729
1.6GIG	ST41600N	Elite-1	1307mb	\$1699	\$1799
2.4GIG	ST42400N	Elite-2	2050mb	\$2199	\$2299
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3-5GIG	Archive Turbo DAT	DAT, DDS-DC	4mm	\$1319	\$1339
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3-5GIG	WangDAT 3200	DAT, DDS-DC	4mm	\$1275	\$1295
2.0GIG	HP 35470A	DAT, DDS	4mm	\$1179	\$1199
3-5GIG	HP 35480A	DAT, DDS-DC	4mm	\$1299	\$1319
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CMO-M2511A	<b>Fujitsu</b>	128mb	3.5" Low Profile	35ms	<b>\$969</b>	<b>\$999</b>
CMO-OD3000	<b>Teac</b>	128mb	3.5" Half Height	45ms	<b>\$919</b>	<b>\$949</b>
CMO-3100E	<b>Ricoh</b>	128mb	3.5" Half Height	45ms	<b>\$965</b>	<b>\$995</b>
CMO-JY750	<b>Sharp</b>	594/652mb	5.25" Half Height	40ms	<b>\$2019</b>	<b>\$2049</b>
CMO-5031E	<b>Ricoh</b>	594/652mb	5.25" Full Height	28ms		<b>\$2295</b>
CMO-Tahiti II	<b>MaxOptix</b>	650mb/1.0GiG	5.25" Full Height	35ms		<b>\$2999</b>
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<b>Connor</b>								
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120	CP-30100	16	1300	150000	24	\$259	\$309	
170	CP-30170E	16	1400	150000	24	\$269	\$329	
213	CP-30200	15	2000	150000	24	\$349	\$399	
<b>Quantum</b>								
85	ELS 85S	17	1800	250000	24	\$179	\$249	
127	ELS 127S	17	1800	250000	24	\$199	\$279	
170	ELS 170S	17	2000	250000	24	\$219	\$299	
240	LPS 240S	16	2300	250000	24	\$299	\$389	
120 (Pwrbk)	GO 120	17	1900	150000	12	\$299		
<b>Digital Equipment</b>								
1.05GB	DSP-3105	9.5	2600	250000	60	\$999	\$1,049	\$1,099
<b>Seagate</b>								
1.05GB	ST-11200N	10.5	3200	200000	60	\$999	\$1,049	\$1,099
<b>Fujitsu</b>								
520MB	M2624FA	9	2700	200000	60	\$799	\$859	\$899
1.06GB	M2694FA	9	2800	200000	60	\$1,099	\$1,149	\$1,199
<b>Toshiba</b>								
210 (pwrbk)	MK-224	12	1800	150000	12	\$499		

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# 66-1200



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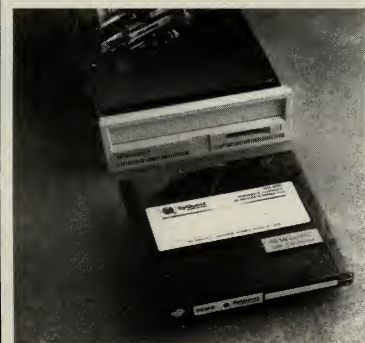




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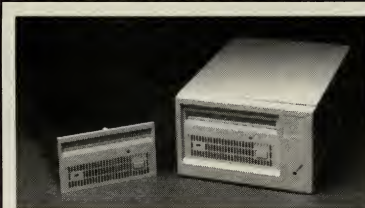


### SyQuest

External 44mb (One Cartridge inc.)	379
External 88mb (One Cartridge inc.)	479
External 88mb C* (One Cartridge inc.)	549
External 105mb (One Cartridge inc.)	689
44mb Cartridge/10 pack	62.50/610
88mb Cartridge/5 pack	96.50/475
105mb Cartridge/5 pack	71/350

All SyQuest Drives come with FWB™ HDT Formatting Software. SyQuest carries a TWO year Warranty on Drives and ONE year on Cartridges. \*READS AND WRITES 44 AND 88 CARTRIDGES. Does not format 44 cartridges. Dual kits available.

## MAGNETO-OPTICAL



### RICOH

128mb, 3.5"HH, 45ms	949
650mb, 5.25"FH, 28ms	2249
128mb/650mb Cartridge (Verbatim)	35/95

### Teac

128mb, 45ms, 3.5"HH	899
128mb cartridges (Verbatim)	35

### Fujitsu

128mb, 30ms, 3.5"TH	999
128mb cartridges (Verbatim)	35

### Sharp

650mb, 40ms, 3.5"HH	2049
650mb Cartridge (Verbatim)	95

## TAPE BACK-UP

### Archive

2.0gb Standard	989
4.0gb - 8.0gb Compression Turbo	1339
90m/60m Tape	16/13

### Teac

150mb Tape Backup Drive	469
600mb Tape Backup Drive	669
600mb / 150mb Tape Cassette	27/18

All tape backup drives come bundled with FREE Retrospect V.2.0, one tape and have a one year warranty.

## CD-ROM DRIVES

### Toshiba

600mb, 200ms, 3.5"HH	539
----------------------	-----

CD-ROMs are Dual-Speed & Kodak Photo-CD/Multi-session compatible. Bundled with FWB™ CD-ROM Tool Kit. Toshiba carries a ONE year Warranty.

### NEC

CDR-38 Portable	499
CDR-84 Internal	599
CDR-74 External	619

## HARD DRIVES



### Quantum

Formatted Capacity	Speed	Size	Internal	External
ELS 42mb	19ms	3.5"TH	169	229
ELS 85mb	17ms	3.5"TH	185	245
ELS 127mb	17ms	3.5"TH	209	269
ELS 170mb	17ms	3.5"TH	229	289
LPS 240mb	10ms	3.5"TH	309	369
LPS 525mb	10ms	3.5"TH	739	799
Pro 700mb	10ms	3.5"HH	939	999
Pro 1.05gb	10ms	3.5"HH	1079	1139
Pro 1.22gb	10ms	3.5"HH	1199	1259
GRS-80mb	17ms	2.5"PB	279	379
GO-120mb	17ms	2.5"PB	299	399
GRS-160mb	17ms	2.5"PB	449	549

TWO year Warranty. ONE year Warranty on GO drives. FWB™ HDT Formatting Software Included.

### Toshiba

Formatted Capacity	Speed	Size	Internal	External
877mb	12.5ms	3.5"HH	979	1039
1.23gb	12.5ms	3.5"HH	1089	1149
213mb	12ms	2.5"PB	539	639

Toshiba carries a THREE year Warranty. FWB™ HDT Formatting Software Included.

### Fujitsu

513mb	9ms	3.5"HH	739	799
1.0gb	9ms	3.5"HH	1199	1259
1.65gb	15ms	5.25"FH	2099	2199
2.05gb	12ms	5.25"FH	2239	2339

FIVE year Warranty. FWB™ HDT Formatting Software Included.

### Conner

82mb	17ms	3.5"TH	185	245
160mb	13ms	3.5"TH	239	299
206mb	12ms	3.5"TH	299	359
515mb	10ms	3.5"HH	739	799

TWO year Warranty. FWB™ HDT Formatting Software Included.

### Maxtor

120mb	15ms	3.5"TH	199	259
203mb	15ms	3.5"TH	279	339
235mb	15ms	3.5"TH	299	359
345mb	15ms	3.5"TH	499	559
520mb	9ms	3.5"HH	859	919
1.15gb	9ms	3.5"HH	1239	1299
1.0gb	13ms	5.25"FH	1099	1199
1.43gb	13ms	5.25"FH	1399	1499

TWO year Warranty. FWB™ HDT Formatting Software Included.

## MAC SIMMS

1x8/2x8/4x8/16x8 @ 80ns	CALL
Quadra 700/950: 4x8/16x8	CALL
Powerbook 140/170: 4mb/6mb	CALL
Powerbook 160/180: 4mb/6mb/8mb/10mb	CALL
Duo 210/230: 4mb/6mb/8mb/10mb	CALL
Centris & LCIII: 4x8/8x8/16x8 @ 70ns	CALL
Quadra 800: 4x8/8x8/16x8 @ 60ns	CALL

PLEASE BE AWARE THAT SIMM PRICES ARE CHANGING ON A DAILY BASIS.

## PRINTERS

### Hewlett Packard

Deskwriter	399
Deskwriter 550-C	769
LaserJet 4M	1999

### NEC

SilentWriter 95F Printer	1289
SilentWriter 95FX Printer	1529
SilentWriter 97F Printer	1569
SilentWriter 97FX Printer	1809
ColorMate PS-40 Color Printer	3399
2mb upgrade for printers	95

Get a \$250 rebate from NEC with the purchase of any printer. Offer ends 6/30/93.

## VIDEO



### SuperMac

ThunderStorm Pro	2799
ThunderLight	1745
Spectrum/24 Series IV	829
Thunder 8	1139
Spectrum/8.24 PDQ	789
Spectrum/8.24	613
Spectrum/8 LC-SI/NUBUS	425/355
SuperMatch 21" TPD Color	2444
SuperMatch 20" DM Trinitron	2485
SuperMatch 20" Color	1525
SuperMatch 17" MM Color	1049
SuperMatch 17-T Trinitron	1089
Platinum 21" TPD	1049
Platinum 20" TPD	871
Spigot & Sound/Pro	504/1139

### Radius

Color Display/21	2339
IntelColor Display/20	2639
PrecisionColor 19	2059
PrecisionColor Pivot	949
PrecisionColor 24X Interface	1529
PrecisionColor 24XK Interface	829
PrecisionColor 24XP Interface	489
PrecisionColor 8XJ Interface	489
Pivot Display/15	599
Full Page Display	479
Two Page Display/19	689
Two Page Display/21	859
Two Page Display/21E	1119
VideoVision (Basic)	1649
VideoVision (Presentation)*	1979
Rockets 25i	979
Rockets 33	1449
RocketShare/SCSI-2 Booster	415/244

\* Includes Premier 2.0 and Action!

### NEC

MultiSync 3FG - 15" Monitor	635
MultiSync 4FG - 15" Monitor	745
MultiSync 5FG - 17" Monitor	1145
MultiSync 5FG - 17" Monitor	1345
MultiSync 6FG - 21" Monitor	2445
FG8x 8-bit board	645
FG24x 24-bit board	1205
FG24xp 24-bit board	505

Get a \$100 rebate from NEC with the purchase of a MacFG 24XP card with either a 15" or 17" MultiSync FG monitor. Offer ends 6/30/93.

### RasterOps

21" Mono/Gray-Scale Monitor	999
21" Color Hitachi	2319
20" Color Trinitron MultiScan RO	2349
20" Color Hitachi MultiScan	1339
24 STV Interface	769
24 SX Interface	619
24 XLI Interface	1929
Paintboard LI	829

### Sony

1430 - 14" Color Trinitron	669
1320LC - 14" Color Trinitron for LC	429
1730 - 16" Color Trinitron NEW!	1089

Includes MAC Adapter. Quadra compatible.

## NETWORK

### Asanté

MC3NB - Thick/Thin/10 Base T, 64k	195
MC+11E64 - Thick/Thin, 64k	145
MC+11ET64 - Thick/10 Base T, 64k	145
MC+LC11 - Thin/10 Base T, FPU Socket	195

## SCANNERS



### Microtek

ScanMaker II	879
ScanMaker IIw/transp. opt.	1439
ScanMaker IIx	1169
ScanMaker IIx w/transp. opt.	1689
ScanMaker 35T	1389
Automatic document feeder	465

### UMAX

UC - 1200s with Color Access Software	2959
UC - 840 with Adobe PhotoShop™ v2.5 FV	1259
UC - 630 with Adobe PhotoShop™ v2.5 LE	1089
UG - 630 with Typereader OCR	889
Automatic Document Feeder	449
Transparency / Slide Scanner Option	699

### Sharp

JX-320 with Adobe PhotoShop™ v2.5 FV	899
JX-450 with Adobe PhotoShop™ v2.5 FV	3899

### AGFA

Arcus 1200dpi Scanner	CALL
Arcus Transparency	CALL

## MODEMS

### PSI

COMstation One	135
COMstation Two	235
COMstation Four	345
COMstation Five	415
PowerModem I	99
PowerModem II	225
PowerModem III	315
PowerModem IV	405

### US Robotics

Mac&Fox SPORTSTER Modem 14.4bps, Send/Receive FAX Modem	239
WorldPort FAX	459
Courier v.32 bis (Data only)*	399
Courier v.32 w/FAX*	419

\*Includes cable.

## ACCELERATORS

### DayStar

Turbo 040 25 MHz /33MHz/40MHz	1099/1359/2039
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FastCache Turbo 25, 33 & 40MHz - 128k cache for Turbo 040	169
FastCache Quadra (700, 800, 900 & 950) - 128K	379

PowerCache 33MHz OR w/ FPU	375/459
PowerCache 40MHz OR w/ FPU	545/629
PowerCache 50MHz OR w/ FPU	709/829
PowerCache Adapters*	41

\* Additional on all PowerCache cards except for Ixi

### Applied Engineering

TransWarp LC - 25MHz or w/FPU	319/419
TransWarp LC - 33MHz or w/FPU	409/419
TransWarp LC - 40MHz or w/FPU	409/539

TransWarp SE - 25MHz or w/FPU and 40MHz or w/FPU	185/309/259/389
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TransWarp Classic - 25MHz or w/FPU and 40MHz or w/FPU	185/309/259/389
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SuperMac:

SuperMatch 21" ..... **\$2,405<sup>00</sup>**  
SuperMatch 17" ..... **\$1,029<sup>00</sup>**  
SuperMatch 17" T ..... **\$1,099<sup>00</sup>**  
Platinum 21" ..... **\$1,029<sup>00</sup>**

Other SuperMac models available.

Samsung 14" Monitor ..... **\$349<sup>00</sup>**  
Samsung 15" Monitor ..... **\$479<sup>00</sup>**  
Samsung 17" Monitor .31 dot pitch ..... **\$639<sup>00</sup>**  
Samsung 17" Monitor .26 dot pitch ..... **\$949<sup>00</sup>**

### NETWORKING

MacNet:

SE/30 and IIsi 3 in 1 Combo Card\* ..... **\$130<sup>00</sup>**  
SCSI 3 in 1 with Cable\* ..... **\$SAVE**  
SCSI 3 in 1 PowerBook Cable\* ..... **\$SAVE**

\*Above cards have 64Kb of static RAM

IEEE compatible, thick, thin, or 10 baseT

LC 10Base2/T Card. .... **\$130<sup>00</sup>**

Repeaters and concentrators are available.

### UPS SYSTEMS

APC UPS 110SE ..... **\$229<sup>00</sup>**  
APC UPS 370ci ..... **\$359<sup>00</sup>**  
Other models available.

### OPTICAL DRIVES

Mass Micro 128Mb ..... **\$1,259<sup>00</sup>**

Mass Micro 650Mb ..... **\$3,099<sup>00</sup>**

Cartridges available.

### REMOVABLE DRIVES

Mass Micro DataPac 88 R/W\* ..... **\$619<sup>00</sup>**

Cartridges available. (\*reads and writes 44 or 88Mb cartridges)

### MODEMS

Practical Peripherals:

96/96 Fax Modem ..... **\$205<sup>00</sup>**

14,4/14,4 Pocket Fax Modem ..... **\$376<sup>00</sup>**

Prometheus:

Home Office Voice Modem ..... **\$180<sup>00</sup>**

Ultra Home Office Voice Modem ..... **\$369<sup>00</sup>**

### PRINTER UPGRADES

Samsung Image 1200 Kit

Upgrades Finalé 8000 to 1200 DPI ..... **\$899<sup>00</sup>**

### VIDEO CARDS

SuperMac:

Thunderstorm for Photoshop ..... **\$629<sup>00</sup>**

Thunder24 ..... **\$2,159<sup>00</sup>**

Spectrum 8-24 PDQ Nubus or IIsi ..... **\$789<sup>00</sup>**

Spectrum 8 Series III Nubus ..... **\$399<sup>00</sup>**

Spectrum 24 Series IV ..... **\$829<sup>00</sup>**

Monochrome Card ..... **\$349<sup>00</sup>**

Other models and products available.



**SUPERMAC  
MONITORS/CARDS**  
SuperMatch 20 Plus  
Spectrum/24 Series IV.  
**\$2,298<sup>00</sup>**



**TOSHIBA 3401 CD-ROM**  
200 ms, 330Kb Transfer rate,  
Fastest CD-ROM.  
**\$559<sup>00</sup>**



**MACNET NUBUS  
NETWORK CARD**  
3 in 1 combo card,  
Novell compatible,  
Up to 10Mbps.  
**\$130<sup>00</sup>**



**SAMSUNG FINALÉ 8000  
LASER PRINTER**  
8-pages/min., 300 DPI, Fast  
RISC Processor upgradable to  
1200 DPI.  
**\$1,219<sup>00</sup>**



**OCEAN OPTICAL DRIVE**  
256 Mb Optical Drive, with  
Cartridge, 35ms seek time.  
**\$1,645<sup>00</sup>**



**PRACTICAL PERIPHERALS**  
14,400/14,400 Send/Receive  
Fax Modem.  
**\$225<sup>00</sup>**



**E-MACHINE**  
Powerlink Desknet Dou's.  
Other models available.  
**\$622<sup>00</sup>**



**PROMETHEUS PB MODEM**  
14.4 Modem, 9600 Fax.  
Priced to move.  
**\$289<sup>00</sup>**



**SEAGATE HARD DRIVES**  
1.2Gb Internal Hard Drive.  
Other models available.  
**\$1,049<sup>00</sup>**



**MASS MICROSYSTEMS**  
DataPak 105E, 14.5ms access time.  
Lifetime warranty on cartridge.  
**\$825<sup>00</sup>**

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**Roadrunner 200i PowerBook Drive \$609**

Internal drive for your PowerBook or Duo, includes brackets, PBTools, 201MB, 12ms avg seek time, 2 year warranty.

## Featherweight Drives at Knockout Prices!



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## Compact Drives at Super Low Prices

Portable, compact, lightweight — these Athena drives feature dual 50 pin SCSI ports and external termination along with a fast 15ms average seek time in a 2" x 5.5" x 7.5," 1.9lb case.

**Maxtor®**

**Maxtor 7120**

**\$279**

121MB/3.5"  
2 year warranty

**Maxtor 7213**

**\$349**

207MB/3.5"  
2 year warranty

**Complete with 25-50 pin SCSI cable  
and universal 110V/220V power supply.**



## Microtech Polaris<sup>★</sup> Hard Disk Drives

Quality engineered in our own labs, Polaris drives deliver the best components, high level design and rigorous quality control testing. Microtech is famous for. Polaris drives ship complete with double shielded twisted pair SCSI cables for external models; complete brackets and installation manual for internals.

**Quantum ELS127**

**\$319**

**Internal \$229**

124MB/low profile 3.5"  
17ms avg seek time/2 yr warranty

**Quantum LPS240**

**\$429**

**Internal \$339**

234MB/low profile 3.5"  
10ms avg seek time/2 yr warranty

**Quantum LPS525**

**\$889**

**Internal \$799**

500MB/low profile 3.5"  
10ms avg seek time/2 yr warranty

**DEC DSP3105**

**\$1299**

**Internal \$1209**

1.0GB/3.5"  
10ms avg seek time/5 yr warranty

**Maxtor MXT1240**

**\$1499**

**Internal \$1409**

1150MB/3.5"  
9ms avg seek time/3 yr warranty

## Microtech T2000 Tape Backup System

Need to backup a network of 1GB drives? Microtech knows what you need and delivers with the T2000: built-in data compression for safe storage of up to 3-5GB per tape, snappy performance at 10MB per minute and Retrospect 2.0 — all this for a price you can afford.

**\$1449**

**Internal \$1359**

For use in the Quadra 900 or 950, Centris 610 or 650, Iliac or vx and Performa 600.  
2 year warranty

**Complete with 25-50 and 50-50 pin SCSI cables,  
90M DDS Tape and Cleaning Cartridge.**

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Every Drive Tested and Retested

48-Hour Warranty Repair Turnaround

THE APS ADVANTAGE

APS TURBO DAT  
**\$1399**

APS DAT  
**\$1199**



APST 155  
**\$499**

APS T 600  
**\$699**



It's no wonder that industrial giants and individual users alike turn to APS' award-winning products when they need a backup solution. Our APS tape systems offer solutions for backup needs ranging from 155MB to a whopping 5GB!

## APS DAT & Turbo DAT

The standard APS DAT offers you great performance and reliability. Get up to 2.0GB on a 90 meter tape with backup speeds as high as 10MB per minute.

The APS Turbo DAT is based on Archive's Turbo Python DAT Mechanism, the fastest DAT mechanism available. The APS Turbo DAT is more than 20% faster than all other DAT units, with backup speeds as high as 17MB per minute, and can store up to 5GB on a 90 meter tape.

## APS T 155

The APS T 155 tape backup system was voted the Editor's Choice for personal tape backup by MacWorld magazine. With backup rates of up to 5MB per minute on a local Mac, you know you can depend on it for day-to-day backups of your important data.

## The Best Media Available

If you need tapes, our Maxell 60m and 90m DAT and 155MB and 600MB Teac tapes are the best data grade tapes available. Our 60m tapes are \$12 each or 10 for \$110; 90m tapes are \$16 each or 10 for \$130. Our 155MB tapes are \$19; 600MB tapes, \$35.

## APS T 600

The APS T 600 is a medium capacity backup system that fills the void between the APS T 155 and APS DAT backup systems. The APS T 600 is an excellent choice for local volume backup at rates as high as 7MB per minute and works well for backing up small and medium sized networks.



A copy of Retrospect included with all Tape drives

## → DAT

Model	Internal*	External
APS TurboDAT	\$1299	\$1399
APS DAT	1099	1199

\*Internal models for Quadra 900 & 950

All APS DAT Drives Include Retrospect by Dantz

## → TAPE DRIVES

APS T 155 MB Tape Back Up	\$499
APS T 600 MB Tape Back Up	699

M-F 7AM-9PM CST. SAT 10AM-4PM CST.

International: 1-816 483-6100

FAX: 1-816 483-3077 (24 Hours).

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\* Prices and specifications subject to change without notice.



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## Take a Quantum Leap with APS Quantum Drives

The APS Q 525 uses Quantum's Lps525 mechanism, delivering 2.2MB per second sustained transfer rates along with 10ms average seek times. Quantum's acclaimed read and write cache systems let this drive perform like the more expensive high-spindle-speed drives.

The APS Q 1225 represents one of the best of the new high-capacity, high-speed 3.5" SCSI drives on the market. The stats are compelling: The APS Q 1225, which uses Quantum's 1225 mechanism, boasts an average seek time of just 10ms, a data transfer rate of 2.2MB per second and an incredible 1200 transactions per second.

Quantum 525  
\$**699**

Quantum 1225  
\$**1199**



## APS HARD DRIVES

Model	Internal	External
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### → QUANTUM

APS Q 85 EL <sup>2</sup> Quantum 85ELS mechanism	\$189	\$259
APS Q 127 <sup>2</sup> Quantum 127ELS mechanism	219	289
APS Q 170 <sup>2</sup> Quantum 170 ELS mechanism	239	309
APS Q 240 <sup>2</sup> Quantum LP240 mechanism	329	399
APS Q 525 <sup>2</sup> Quantum Lps525 mechanism	699	769
APS Q 1225 <sup>5</sup> Quantum 1225P mechanism	1199	1269

### → TOSHIBA

APS T 1.2G <sup>3</sup> Toshiba MK-538 mechanism	999	1069
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1-5 Denotes length of manufacturer's warranty

Model	Internal	External
-------	----------	----------

### → MAXTOR

APS MX 120 <sup>2</sup> Maxtor 7120 mechanism	\$199	\$269
APS MX 245 <sup>2</sup> Maxtor 7245 mechanism	329	399
APS MX 345 <sup>2</sup> Maxtor 7345 mechanism	499	569
APS MX 540 <sup>2</sup> Maxtor MXT540 mechanism	899	969
APS MX 1240 <sup>3</sup> Maxtor MXT1240S mechanism	1499	1569

Dantz's Disk Fit  
Direct included with  
all drives



Model	Internal	External
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### → MICROPOLIS

APS MS 560 <sup>5</sup> Micropolis 2105 mechanism	\$899	\$969
APS MS 1.2G <sup>5</sup> Micropolis 2112 mechanism	1299	1369
APS MS 2.4G <sup>5</sup> Micropolis 1924 mechanism	2599	2699

### MW → FUJITSU

APS F 520 <sup>5</sup> Fujitsu M2624S mechanism	759	829
APS F 1.2G 5.25 <sup>5</sup> Fujitsu M2266 mechanism	1149	1249
APS F 2.0G <sup>5</sup> Fujitsu M2652 mechanism	2249	2349

# APS Technologies



# All Your Storage Needs

**APS SQ 3105 — The next step in removable media**

SYQUEST		
Model	MB	External
APS SQ555 <sup>2</sup>	44MB	\$379
APS SQ5110 <sup>2</sup>	88MB	459
APS SQ5110c <sup>2</sup>	44/88	549
APS SQ3105 <sup>1</sup>	105MB	689

## NEW

### APS SQ 3105

The new APS SQ 3105 packs a whopping 105MB of storage in a small, light 3.5" cartridge that's only a little larger than a floppy disk. The compact drive unit weighs in at a light 3.7 lbs, and measures just 7.25" x 3.1" x 4.6". Delivering impressive sustained transfer rates as high as 1.2MB per second and seek times as low as 12ms, this is one option you really should consider if you need transportable storage with the performance of a hard disk drive.



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Hard Drive, a novel by David Pogue

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The New York Times  
While supplies last



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**Award-Winning Customer Service**

**Every Drive Tested and Retested**

**48-Hour Warranty Repair Turnaround**

**THE APS ADVANTAGE**

## POWERBOOK ACCESSORIES

### MODEMS

<b>2400 baud</b>	
2400 baud (9600 send fax/4800 receive fax)	\$69
<b>9600 baud v.32</b>	279
<b>14,400 baud v.32 bis</b>	299

All APS Modems for the PowerBook include a 30-day Money Back Guarantee, comprehensive installation guide, and APS' Communications & Fax software.

### APS SCSI BOY

**APS SCSI Boy** \$29

- The Ultimate PowerBook Necessity
- Rugged Palm-Sized 25-30 PowerBook SCSI Adapter
- Carry Only One Cable
- Never Get Caught with the Wrong Cable Again!

†Dealer Inquiries Welcome



## APS POWERBOOK DRIVES



### QUANTUM GO-DRIVES

Model	Internal	AC/DC Case
<b>APS 80GRS<sup>1</sup></b>	\$239	\$369†
<b>APS 120<sup>1</sup></b>	329	459†
<b>APS 160GRS<sup>1</sup></b>	459	589†

†Battery-Powered Companion Case for the PowerBook

### TOSHIBA

<b>APS T 213<sup>1</sup></b>	569	699†
------------------------------	-----	------

Toshiba 2224 mechanism

†Battery-Powered Companion Case for the PowerBook



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Model	Internal*	External
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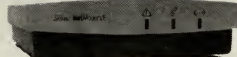
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Powercache Adapter		\$40
Fast Cache Quadra 700, 900		\$249
Fast Cache Quadra (all)		\$375
33 MHZ Turbo 040		\$1345
Fast Cache Turbo 33-128k		\$179
Charger for Photoshop		\$799

### SyQuest

Unformatted Capacity	Access Time	Price
Includes one free cartridge (2 year Warranty)		
44 mb External	19 ms	\$378
88C mb External	19 ms	\$568
105 mb External	14.5 ms	\$728



## CD ROMS



**Airbourne's Texel External CD-ROM Drive** **\$448**  
265ms, Multisession, DualSpeed, SCSI-II

**Toshiba 3401 Ext Drive** **\$498**  
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**NEC Intersect Ext Drive** **\$169**  
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14.4/14.4SR Fax w/ V.42 & V.42 bis **\$268**

Promodem 144e  
ext 14.4/14.4 SR Fax w/ V.42 & V.42 bis **\$258**

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128 mb Epson Optical 29 ms **\$988**

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WangTek 2.1 Gig DAT **\$998** **\$1198**

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Model	60 NS	70 NS	80 NS	Model	60 NS	70 NS	80 NS
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Memory for LCIII, Centris 610, 650

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170 mb LPS	12 ms	\$248	\$298
212 mb LPS	9 ms	\$318	\$378
540 mb	8.5 ms	\$848	\$898

### QUANTUM

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127 mb	17 ms	\$198	\$268
170 mb	17 ms	\$208	\$288

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1.2 Gig	10 ms	\$1298	\$1348

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160 mb	17 ms	\$499	\$599
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### TOSHIBA

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3.5" 1.1 Gig	8.5 ms	\$1178	\$1278
5.25" 1.2 Gig	11.5 ms	\$1148	\$1238
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Elite 2 2.4 Gig	11 ms	\$2398	\$2488
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PowerBook Duo 230

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Spectrum/8LC II .....**\$349**  
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RealTech Scan 800  
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UMAX UC 630  
w/Transparency Option .....**\$1,798**  
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w/Transparency Option .....**\$1,978**

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w/36 MB .....**\$6,995**  
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Personal ColorPoint PSE .....**\$2,649**  
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Texas Instruments  
MicroLaserPlus .....**\$1139**  
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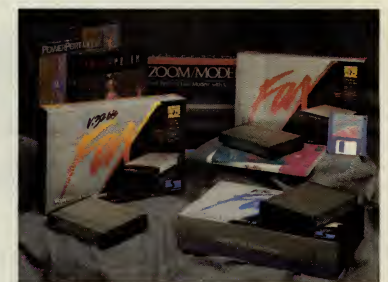
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- top-level warranties on all mechanisms
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	Model number	Internal price	External price	Formatted Mac capacity (in MB)	Average access time (in ms)	Transfer rate* (in MB/second)	Form factor**	Warranty (years)
<b>80 - 120 MB</b>								
Conner 85	CP-30080E	\$209	\$279	82	17	1.5	LP	1
Quantum 85	ELS85	199	269	82	17	1.4	LP	2
Maxtor 120	7120	209	279	121	15	1.5	LP	2
<b>120 - 250 MB</b>								
Quantum 127	ELS127	\$229	\$299	124	17	1.4	LP	2
Conner 170	CP-30170E	259	329	160	9	1.5	LP	1
Quantum 170	ELS170	259	329	160	17	1.4	LP	2
Conner 212	CP-30200	359	429	206	12	2.5 <sup>1</sup>	LP	1
Maxtor 213	7213	279	349	207	15	2.8 <sup>1</sup>	LP	2
Quantum 240	LPS240	339	409	234	10	1.4	LP	2
Maxtor 245	7245	309	379	245.6	15	3.0 <sup>1</sup>	LP	2
<b>320 - 570 MB</b>								
Maxtor 345	7345	\$449	\$519	345	15	3.0	HH	2
Fujitsu 520	M2624FA	799	869	496	9	2.7 <sup>1</sup>	HH	5
Quantum 525	LPS525	899	969	525	10	2.9 <sup>1</sup>	LP	2
Maxtor 540	MXT-540	919	989	521	9	5.5 <sup>2</sup>	HH	2
Conner 540	CP-3540	899	969	515	12	5.5 <sup>2</sup>	HH	1
Micropolis 560	M2105	1049	1119	532	10	5.0 <sup>2</sup>	HH	5
<b>700 MB - 1.3 GB</b>								
Quantum 700	PRO700	\$1199	\$1269	670	10	2.9 <sup>1</sup>	HH	2
Micropolis 800	M2108	1199	1269	698	10	5.0 <sup>2</sup>	HH	5
Toshiba 877	MK-438FB	999	1069	830	12.5	3.0 <sup>1</sup>	HH	2
Quantum 1050	PRO1050	1239	1309	1000	10	2.9 <sup>1</sup>	HH	2
HP 1050	97558	1649	1749	987	13.5	2.8 <sup>1</sup>	FH	5
Fujitsu 1.2	M2266	1249	1349	1079	14.5	3.0 <sup>1</sup>	FH	5
HP 1.2	C2247	1589	1659	1000	10.5	5.3 <sup>1</sup>	HH	5
Micropolis 1.2	M2112	1249	1319	1005	10	5.0 <sup>2</sup>	HH	5
Quantum 1.2	PRO1225	1419	1489	1200	10	2.9 <sup>1</sup>	HH	2
Toshiba 1.2	MK-538FB	1199	1269	1200	12.5	4.0 <sup>1</sup>	HH	3
Maxtor 1.2	MXT-1240	1299	1369	1240	9	4.5 <sup>2</sup>	HH	3
Conner 1.3	CP-31370	2059	2129	1030	10.5	6.0 <sup>1</sup>	HH	1
<b>1.5 - 3.6 GB</b>								
Fujitsu 2.0	M2652	\$2199	\$2299	1752	11	4.8 <sup>2</sup>	FH	5
Seagate 2.1	ST42100N	1699	1799	1900	12.9	3.9 <sup>2</sup>	FH	5
Fujitsu 2.4	M2654	2399	2499	2000	11	4.8 <sup>2</sup>	FH	5
Micropolis 2.4	M1924	2599	2699	2100	10	4.8 <sup>2</sup>	FH	5
Seagate 2.4	ST42400N	2549	2649	2050	11	4.5 <sup>2</sup>	FH	5
HP 2.4	C3010	2899	2999	2000	11.5	5.3 <sup>2</sup>	FH	5
Seagate 3.4	ST43400N	3399	3499	2750	11	6.0 <sup>2</sup>	FH	5
Micropolis 3.6	M1936	3299	3399	3022	10	6.0 <sup>2</sup>	FH	5

\* Transfer rate (or throughput) depends on your Mac CPU and system configuration. For more information, ask your Hardware That Fits sales partner. \*\* Form Factor Low Profile (LP)=3.5 Half Height (HH)=3.5 Full Height (FH)=5.25  
1 SCSI-2 2 SCSI-2 Fast These drives are most efficient when used with a Macintosh Quadra 800, 950 or a RealTech SCSI-2 card.



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**TEAC 155 MB Drive**.....\$499  
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16x8x80 (High Profile)	579
16x8x80 (Low Profile)	609
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Centris & LCIII - 70ns/Quadra 800 - 60ns	
4MB - 70ns/4MB - 60ns	130/135
8MB - 70ns/8MB - 60ns	269/319
16MB - 70ns/16MB - 60ns	599/739
32MB - 60ns	2,219
PB 100 2/4/6	85/195/229
PB140-170-2/4/6	85/159/219
PB160-180-4/6/8/10	189/245/359/419
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Global Village PowerPort Gold	389
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v.32bis S/R Fax 14.4w/cbl & SW	299
2400 Modem ONLY (NO CABLE)	69
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Supra V.32bis PowerBook 14.4	299

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PowerPort/Teleport SILVER 96	339
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Sporster 14.4 MacFax	239
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Accura 2400bps Data Modem	95
Accura 9600bps Data/Fax 96	247
Accura 14.4bps Data/Fax 14.4	329

### CYPRESS

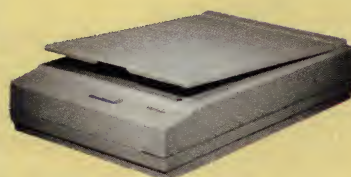
FaxPro II 96	629
FaxPro II 14.4	729

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Asante MacCon 3 Th/Tn/10-T	239
Asante EN/SC Th/Tn/10-T	309
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Dayna LC/LCII/LCIII Tn/10-T	159/159
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Scan Maker IIXE Color	1,179

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Apple SilentWriter II	355
CoStar Labelwriter II/II +	185/229
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Sony 1730 17" MultiScan	1,189
Sony GDM 2036s 20" MultiScan	2,299

## MAC NEEDS

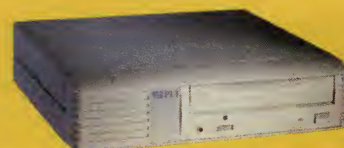
SIMMs Installation Toolkit	8
SIMM Remover	3
Maxima 2.0	44
Optima / 32	149
Virtual 3.0	139
Compact Virtual	139
Video-RAM 512K	50
Video RAM (256K-80ns)	31
Mac 101 Keyboard	120
Kensington Turbo Mouse	106
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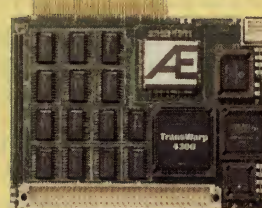
hammerDisk130 Optical ..... 1,339

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Equilizer LC w/FPU ..... 169/239

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128k Cache for 040 All ..... 179

FastCache IIsi w/FPU ..... 279/359

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FastCache Quadra 700/900 ..... 269

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Classic 40Mhz ..... 469

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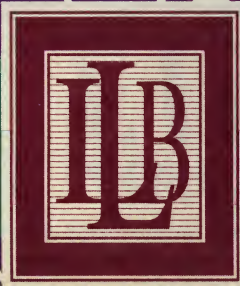
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Cache Card IIsi (64k) ..... 157

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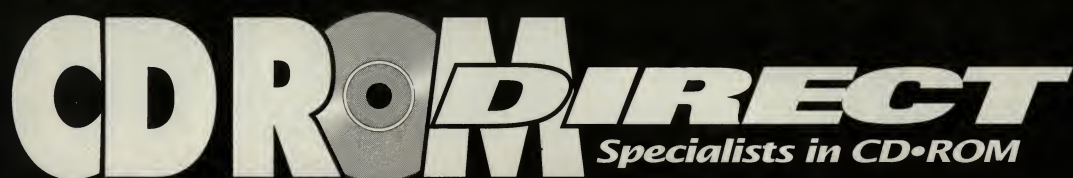
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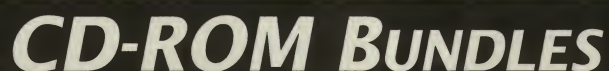
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MACINTOSH SE	•											•		•
MACINTOSH SE/30	•			•										
MACINTOSH II	•			•								•		•
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MACINTOSH IICX	•			•								•		•
MACINTOSH IICI	•	•		•			•			•		•		•
MAC CLASSIC			•											
CLASSIC II, LC, LCII	•	•		•										
COLOR CLASSIC	•	•		•										
MAC LC III				•		•				•	•	•		•
MACINTOSH IISI	•	•		•		•				•		•		•
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QUADRA 700	•			•										
QUADRA 900, 950	•	•		•		•				•				
QUADRA 800				•		•				•				•
CENTRIS 610, 650				•		•				•				•
POWERBOOK 100		•		•	•									
140/145/170		•		•	•									
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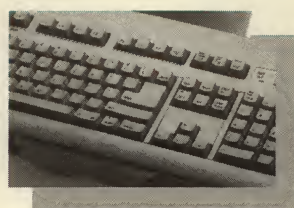
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PB165C/6MB .....	294
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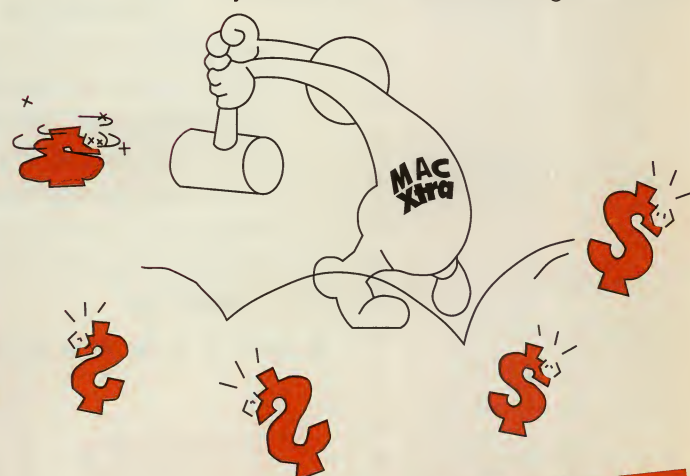
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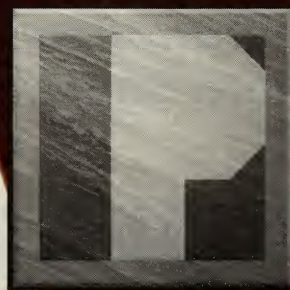
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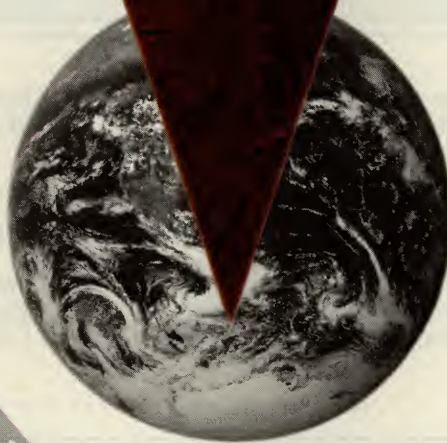
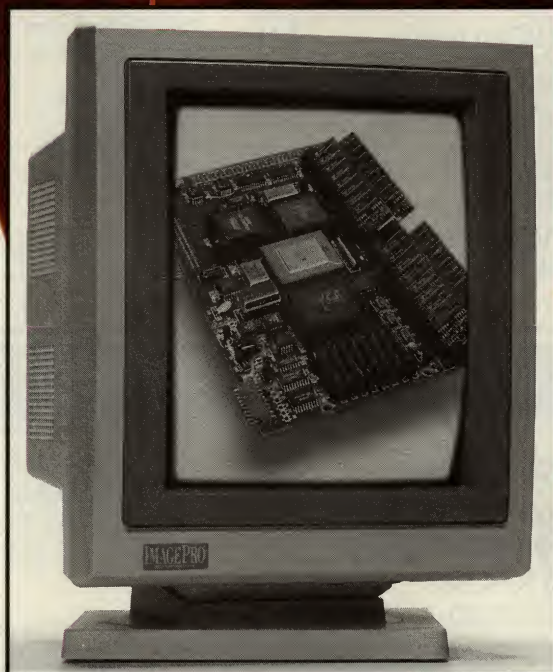
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\*\*PLCC-style chips are used in Apple's newest Macs.

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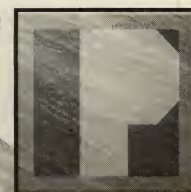
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## NEC CD-ROM

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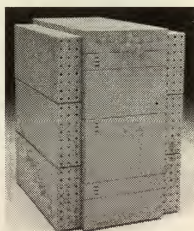
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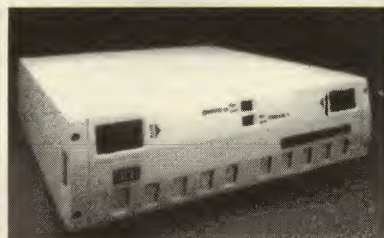
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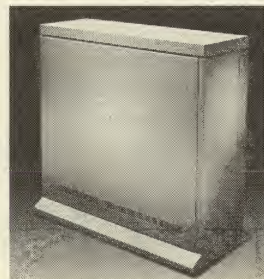
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MB	TYPE	SIZE	SEEK	INT	EXT
560	2105	3.5	10	\$ 880	\$ 975
698	2108	3.5	10	\$1020	\$1115
667	1624	HH	15	\$1020	\$1140
1050	2112	3.5	10	\$1070	\$1165
1340	1528	FH	14.5	\$1300	\$1320
1380	1908	FH	11.5	\$1800	\$1920
2100	1924	FH	11.5	\$2290	\$2410
3050	1936	FH	11	\$2940	\$3060

#### SEAGATE 1YR & 5YR WARRANTY

MB	TYPE	SIZE	SEEK	INT	EXT
245	ST3283N	1"	12	\$ 340	\$ 440
456	ST3550N	1"	12	\$ 875	\$ 915
540	ST3600N	1"	10.5	\$ 855	\$ 955
665	ST4767N	FH	12	\$ 977	\$1125
860*	ST1980N	3.5	9.9	\$ 977	\$1077
1037	ST41200N	FH	16	\$1047	\$1147
1037*	ST11200N	3.5	10.5	\$1047	\$1142
1420	ST41600N	FH	11.5	\$1695	\$1815
1900*	ST42100N	FH	12.9	\$1580	\$1700
2100*	ST42400N	FH	11	\$2217	\$2337
2145	ST12550N	3.5	8	\$2425	\$2525
2900*	ST43400N	FH	11	\$2808	\$2928

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MB	TYPE	SIZE	SEEK	INT	EXT
850	DSP3085S	3.5	9.5	\$1192	\$1287
1050	DSP3105S	3.5	9.5	\$1150	\$1245
1660	DSP3160S	3.5	10	\$1577	\$1672
2000	DSP5200S	FH	12.5	\$1904	\$2024
3500	DSP5350S	FH	11.5	\$3246	\$3366

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MB	TYPE	SIZE	SEEK	INT	EXT
128	M2511A	3.5	38	\$ 936	\$1036
425	M2623FA	3.5	12	\$ 699	\$ 794
520	M2624FA	3.5	12	\$ 720	\$ 815
1079	M2266S	FH	14	\$1189	\$1309
1080	M2694FA	3.5	10	\$1075	\$1170
1750	M2652S	FH	11	\$1902	\$2022
2061	M2654S	FH	11	\$2088	\$2208

#### QUANTUM 2 YR WARRANTY

MB	TYPE	SIZE	SEEK	INT	EXT
240	LPS240S	1"	16	\$ 316	\$ 411
525	LPS525S	1"	10	\$ 699	\$ 794
700	PD700S	1"	10	\$1155	\$1255
1050	PD1050S	3.5	10	\$1050	\$1145
1200	PD1225S	3.5	10	\$1178	\$1273

#### MAXTOR 2YR WARRANTY

MB	TYPE	SIZE	SEEK	INT	EXT
213	7213SY	1	15	\$ 296	\$ 391
340	LXT340SY	3.5	13	\$ 553	\$ 648
540	LXT540SY	3.5	8.5	\$ 899	\$ 994
1240	1240S	3.5	8.5	\$1263	\$1358
1059	PO-12S	FH	13	\$1052	\$1182
1345	P1-17S	FH	13	\$1265	\$1385

#### CONNER 1YR WARRANTY

MB	TYPE	SIZE	SEEK	INT	EXT
170	CP30170	1"	17	\$ 229	\$ 322
212	CP30200	1"	12	\$ 293	\$ 388
545	CP30540	1"	10	\$ 715	\$ 810

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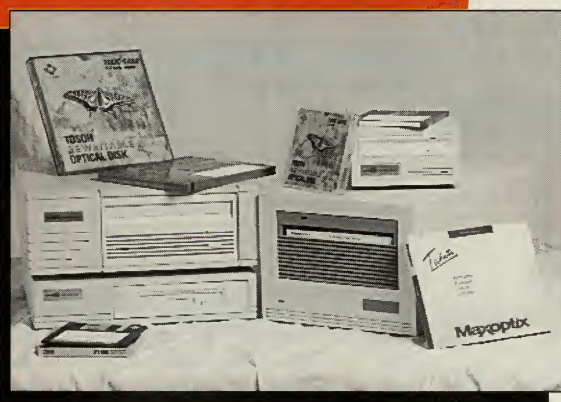
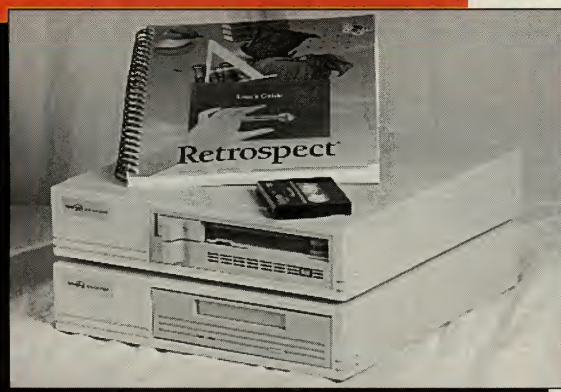
WANG DAT	3100	2GB	DAT	\$ 999
WANG DAT	3200	4GB	DAT	\$1298
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170Meg	17ms	3600	Conner	2 Years	\$239	\$299
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213Meg	12ms	4000	Toshiba	1 Year	\$559 (2 1/2" for Powerbook)	
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877Meg	12ms	3600	Toshiba	5 Years	\$969	\$1039
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1230Meg	12ms	3600	Toshiba	5 Years	\$1139	\$1209
1200Meg	8.5ms	6300	Maxtor	3 Years	\$1299	\$1369
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Toshiba	200ms	330KB/sec	Single Disk	\$499	\$569
Pioneer	270ms	612KB/sec	6 Disk Changer	N/A	\$1279
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					Caddies \$9

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Capacity	Type	Brand	Speed	Internal	External
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2Gig	DAT	Archive	11MB/min	\$979	\$999
2Gig	DAT	Hewlett Packard	12MB/min	\$1179	\$1199
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650Meg	27ms	Hewlett Packard	MultiFunction	N/A	<b>\$2229 Sale!</b>
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1.3Gig	23.5ms	Hewlett Packard	MultiFunction	N/A	\$3279
Media	20Meg 20Meg 5 pack	128Meg 128Meg 5 pack	650Meg 650Meg 5 pack	1Gig 1Gig 5 pack	
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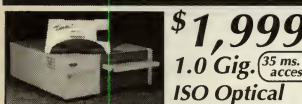
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Multisession Toshiba XM3401B. Fast 200 millisecond  
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**Toshiba XM3301B ..... 459**

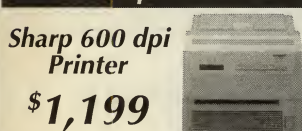
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generating thousands of fonts. Printer emulations  
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Parallel and serial interface with automatic sensing.  
2 MB RAM (expandable to 8MB).

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The Océ G5241 puts the power of color PostScript®  
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The Océ G5232 has all the great qualities of the  
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All SupraFAX modems include STX and MicroPhone  
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\* Package includes a new 20" Relax Mac compatible Trinitron color monitor, video board, and cable. 72 dpi for WYSIWYG.



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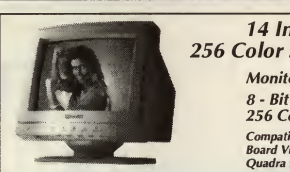
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256 Color ..... 499

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Mac LC, LCII, SE/30 Package\* ..... 999

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24XLI ..... 1,869

PaintBoard Li ..... 789

8XL ..... 459

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ClearVue/LC ..... 299

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Asanté MacCon+ - 64K ..... 149

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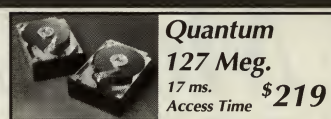
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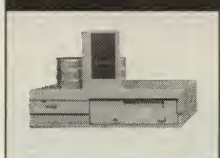
213 Meg. - 7213S, 15 ms. .... 275 335

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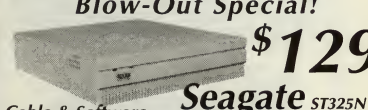
2.0 Gig. DAT Sierra - Archive ..... 1,049

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212 Meg. - CP-30200, 12 ms. .... 299 359

545 Meg. - CP-30540, 8.5 ms. .... 799 859

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85 Meg. - ELS85, 17 ms. .... 185 245

127 Meg. - ELS127, 17 ms. .... 215 275

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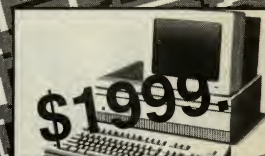
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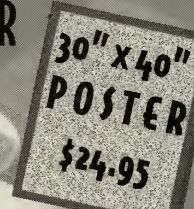
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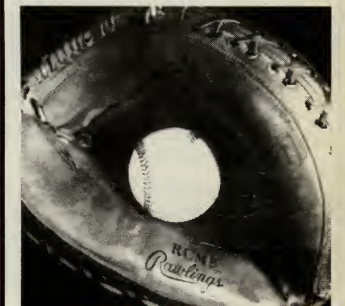
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## Digital Ocean

From Page 1

segment is attractive because it has built-in networking and a high connectivity rate."

Although Digital Ocean declined to comment on the financial details of the arrangement, it said the deal will give it technology needed to make the first release of products both PCMCIA- and Ethernet-compliant.

Grouper, the spread-spectrum device Digital Ocean previewed early this year (see

MacWEEK, Dec. 14, 1992), connects to a PowerBook via the LocalTalk port and lets small workgroups form spontaneous networks with a designated Grouper functioning as a hub.

Grouper missed its planned spring introduction, but Digital Ocean said it will release a line of Grouper products late this year or early in 1994.

In addition to the original LocalTalk-only Grouper, the company will ship an Ethernet

version of the wedge-shaped device, a Grouper dock for the PowerBook Duo and a PCMCIA version for the PCMCIA PowerBook that is reportedly slated for release in the first quarter of 1994.

Grouper will start at between \$500 and \$600 each, according to the company.

Digital Ocean is at 35 Corporate Wood, 9101 W. 110th St., Overland Park, Kan. 66210. Phone (913) 338-1596; fax (913) 338-1089. □

## Newton

From Page 1

master of the product's ROM this month.

Apple this week will announce further details of its plan allowing third-party developers to create Newton products. The Newton Toolkit, a collection of programming tools for third-party developers, is still in beta testing and is expected to be released next month (see MacWEEK, May 17).

Apple Digital World demonstrations of the new PDA ran smoothly, but another demonstration last week — at the Mobile Computing Forum 1993 in Dallas — showed that the Newton project is not without its problems. The Dallas demo, conducted by Bert Cummings, marketing director of Apple's Personal Interactive Electronics Division, was marred by repeated system crashes and inappropriately recognized handwriting.

For example, the words "Wife Mary" scribbled on the back of an electronic address card were read as "Wife Many," prompting jokes about California lifestyles. Other mistakes were further off target. "Progress" was read as "morning" once, then "smokers," then "program."

The demonstration did work, however, when Cummings showed how the Newton can automatically incorporate data on a PCMCIA card when it is inserted, updating on-screen address lists transparently.

Despite the glitches, user reaction was enthusiastic. "PDAs are the first things I've seen where I want the first generation of them. I want the first one," said Ruth Feicht, manager for international mobile planning and worldwide wireless strategy for Atlanta-based Bellsouth Enterprises Inc. "I didn't buy a CD player for two or three years [after their debut] because I knew they'd get cooler. This is real different."

At Mobile Computing Forum, Apple also took pains to position the Newton as an enterprise tool, not just a toy for consumers. Peter Hirshberg, director of marketing for the Enterprise Markets Division of Apple USA, described a customer developing a custom Newton application: the Department of Defense's health-care managers. He said they hope to save \$400 million a year by having physicians use Newtons to interact with a wireless network to prescribe less-expensive medicines.

Despite Apple's optimism, industry observers warned that the company needs to stay on schedule if it hopes to have a winning product on its hands.

"The longer Apple delays the Newton announcement, the more momentum it loses," said Amy Wohl, president of Wohl Associates of Bala Cynwyd, Pa. "[Apple] raised expectations with certain promised features and then said the first version wouldn't include them. If Apple were a used-car salesman, I'd take it to court."

Richard Shaffer, president of Technologic Partners of New York, agreed. "Apple needs to get it out to market as soon as possible and let software developers run with it if they hope to establish it as a consumer product," Shaffer said.

An Apple flier released at Digital World named several forthcoming Newton titles, including PenMagic's Business Forms, Fodor's '94 Travel Manager, a Fortune 500 Guide to American Business and several games. □



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## Digital World

From Page 1

gram to open their choice of editing applications for movies, images, text and sound. The Media Kit will come bundled with VideoFusion 1.5, a \$795 QuickTime editing program from VideoFusion Inc. of Maumee, Ohio.

Once an element is on a screen, users can attach to it actions based on events, such as Mouse Up. For example, a user could instruct a QuickTime movie to play when a screen is opened and stop on a mouse click. Since the Media Tool stores elements separately from the custom applications, the user could change the movie, its events and its actions at any time.

A custom title can contain any number of screens, which can be organized in a Map section of Media Tool. The Map gives users a bird's-eye view of their production by showing thumbnails of each screen and displaying links between screens.

The Apple Media Kit lets users save their titles as code for further manipulation in a new Apple-developed object-oriented programming language, code-named Key.

Phil Waters, Calendar art director for The Los Angeles Times, said he and other staffers used a beta version of the Media Tool to create an interactive title about this year's Super Bowl, combining QuickTime movies; audio interviews with Times sports reporters; and articles, photos and graphics from the newspaper.

"The Media Tool is very easy to use because you don't have to deal with scripting," Waters said. "You just throw everything in a big bucket of stuff and you use the mouse to choose which actions to take."

The Media Tool will compete against such multimedia authoring tools as Passport Designs Inc.'s upcoming Producer Professional and Macromedia Inc.'s Director and Authorware.

Executives at Macromedia said they are confident multimedia producers will choose Director over Apple's new authoring program because it offers additional features such as animation and machine control. "The Media Tool is a toy. I don't see how you could develop an exciting title with it," said John "Bud" Colligan, president and CEO of Macromedia.

However, Macromedia officials are far from pleased that Apple has entered the multimedia-authoring market. "Apple should support tools vendors instead of cutting into companies that are developing tools for the Mac platform," said Joe Fantuzzi, Macromedia vice president of marketing.

Duncan Kennedy, product-line manager in Apple's Personal Interactive Electronics Division, said the Media Tool is designed to attract publishers to the Mac by easing the task of creating titles. He said PIE is also developing tools for electronic document publishing and CD-ROM mastering.

PIE last week announced it will publish several CD-ROM titles developed by companies such as Time Warner Interactive Group, Arborensence and Canter Technology.

The show also featured a demo from Apple Chairman John Sculley of eztv, an Apple-designed interface for interactive television. The interface lets viewers use on-screen menus to flip through channels, mark programs for later viewing and set their VCRs. He also showed how viewers can use eztv to order items over home-shopping channels. The system will run on devices that sit on top of TV sets (see story, Page 24). □

## 486

From Page 1

speed of the 486 to be used in the final product has not been determined, sources said; current prototypes are based on 386 chips.

Users won't have to restart to turn their Mac into a PC or vice versa: Pressing a hot key will cause the screen to go black momentarily, then come back to life in the other environment, sources said. Unlike two competing PC-on-Mac solutions — the OrangePC

NuBus card from Orange Micro Inc. of Anaheim, Calif., and the SoftPC emulation-software series from Insignia Solutions Inc. of Mountain View, Calif. — the Apple product will not let Mac users run PC software in a window on the Mac desktop.

In addition, sources said, the Apple card will offer no CD-ROM or networking support. The Orange Micro and Insignia products let users connect to PC-based networks by adding hardware or software, respectively,

while SoftPC includes PC CD-ROM drivers.

The development of an Intel-based coprocessor card represents a revival of an old strategy for Apple. In the 1980s it supported the development of Intel-based coprocessor cards for the Mac II and SE by AST Research Inc. of Irvine, Calif. The cards, then called the Mac286 and Mac86, had only limited success in the market, and in 1989 AST sold the technology to Orange Micro.

Apple declined to comment. □

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## Spindler

From Page 1

no comment on the story, but several said privately that they put little stock in the reports. Others acknowledged, however, that top executives have recently considered a variety of ways to get more capital to finance Apple's ambitious development agenda.

Representatives of the Basking Ridge, N.J.-based telecommunications giant said only that they meet frequently with Apple as well as many other companies.

MacWEEK last week asked a variety of Apple observers to offer advice for the new CEO. The responses are as varied as the number of current Mac models, although there was

*"It's the income statement, stupid. Fat is oozing out of the buildings at Cupertino."*

— Jean-Louis Gassée, president of BeLabs Inc. and former Apple Products president

a consensus that the company has become bloated in both personnel and products.

"It's the income statement, stupid," said Jean-Louis Gassée, president of BeLabs Inc. of San Jose, Calif., and former Apple Products president. "Fat is oozing out of the buildings at Cupertino."

"There will be short-term pain [with layoffs], but it is necessary," he said. "Apple needs to make cuts from Kaleida, Taligent, the Enterprise Systems Division, Personal Interactive Electronics, etc."

Spindler must also address "a high level of bureaucracy that has stifled innovation and focus," said Seymour Merrin, president of Merrin Information Services Inc. of Palo Alto, Calif. "You have a bunch of people over there competing with one another trying

to advance different products and projects."

Others suggested Spindler move to pare back the proliferation of Mac products.

"I couldn't draw a diagram of the Mac product line by price and name if my life depended on it," said Amy Wohl, president of Wohl Associates of Bala Cynwyd, Pa. "There is an enormous lack of focus in Apple's product line. It used to be crisp and clear."

While simplifying the Mac family, Apple must also continue to cut prices.

"Spindler needs to be somewhat ruthless and make sure there isn't a price delta between Apple and DOS products, primarily on the desktop," said Ed Anderson, president of ComputerLand Inc. of Pleasanton, Calif.

Although Spindler must eliminate products and cut prices, he also has to recapture the Mac's glamour. "They have lost the mystique of the Macintosh," Merrin said. "Whenever they have it, sales follow. But Apple hasn't done anything innovative with the Mac in several years."

Others contend that Apple must diversify its product line to compete successfully. "The Mac is 9 years old. Apple needs to move beyond the desktop and toward PDAs (personal digital assistants) and consumer devices," said Chuck Boesenberg, president and CEO of Central Point Software Inc. of Beaverton, Ore., and former Apple senior vice president of U.S. sales and marketing. "Everyone in the future will compute at home; Apple needs to address that."

Most observers supported Apple's efforts to move into new markets, especially PDAs, but urged the company to move faster.

"They need to bring products to market much more quickly — even if they're incremental — if they want to continue to spend 10 percent of their budget on R&D," said Michael Murphy, editor of the California Technology Stock Letter in Half Moon Bay, Calif. "Newton is critical. They need to get it out there as soon as possible with basic software. Time is critical for that product."

Although Spindler faces tough choices, observers urged him to continue Sculley's effort to move the company in new directions.

"Apple needs to get more involved in digital

*"I couldn't draw a diagram of the Mac product line by price and name if my life depended on it. There is an enormous lack of focus in Apple's product line. It used to be crisp and clear."*

— Amy Wohl, president of Wohl Associates

media," said Richard Shaffer, president of Technologic Partners of New York. "They're not making as much noise as Intel and Microsoft, but their products are much better for that technology."

Ted Stabler, president of Cayman Systems Inc. of Cambridge, Mass., urged Spindler to press ahead with the effort to move the Mac operating system to other platforms.

"I continue to think that Apple should work on porting the Mac OS to the Intel platform and begin to license the OS — Macs running on Pentium would be a great thing," he said. "They should have done it three years ago. It would've been tough, but they could have given Windows real competition."

"I think Spindler is probably more inclined to do [this] than Sculley. It would have been hard for Sculley to admit he made a mistake."

But Spindler cannot afford to let anything get in the way of Apple's transition to RISC, Gassée cautioned.

"Apple needs to successfully execute the move to the PowerPC platform for the long-term viability of the company," he said.

Echoing the sentiments of many observers, Gassée said Spindler was more than capable of putting Apple back on track. "I've known Mike for 12 years. I trust entirely he knows what to do." □

## Microsoft

From Page 1

The two Mac applications are also expected to share several features, such as beefed-up macro support and a new interface designed as an alternative to pull-down menus.

► **Tabs and toolbars.** The new interface scheme, which Microsoft calls "Tabbed Dialogs," resembles an approach implemented by Borland International Inc. in its Quattro Pro spreadsheet for Intel-based systems and by GO Corp. in PenPoint, its pen-driven operating system. The interface features on-screen buttons that look like the label tabs on Manila folders or notebook dividers. Each is labeled with the name of a menu or function; clicking on the tab brings up the function or a new set of tabs with the commands found on the corresponding menu.

The new releases will also continue to rely heavily on iconic toolbars. Like Excel 4.0, the new versions of both programs will provide multiple toolbars, and identical placement of icons will further contribute to the resemblance between Word and Excel. Users can display or hide any combination of the multi-

ple toolbars, providing point-and-click access to hundreds of functions. The toolbars will also act as a method for directly accessing other Microsoft applications.

► **Macros.** Word 6.0 will bring macros — a feature available in Word for Windows — to the Mac word processor for the first time; Microsoft abandoned the macro language it originally planned for Word 5.0. Word 6.0's macro language will be compatible with Excel 5.0's, enabling users to write a macro in one of the applications that will control functions within the other.

"I'm really looking forward to improved macro support. It will give me the ability to create macros and custom dialog boxes between applications and across platforms," said Bob Schmidt, a systems engineer at Ball Aerospace Corp. in Boulder, Colo., and a user of Excel 4.0 for the Mac.

The shared language, however, apparently will have a short life expectancy. In subsequent releases of Word and Excel, as well as in its other applications, Microsoft is expected to move to a different language based on its Object Basic development system. The com-

pany will continue to support the Word 6.0-Excel 5.0 macro language but will not update it after the upcoming release, sources said.

Excel 5.0 for the Mac will let users build 3-D spreadsheets, a feature popularized by Lotus 1-2-3. The upgrade also offers improved data-manipulation capabilities, such as the ability to directly modify charts, edit in cells, and transpose row and column data by dragging and dropping.

The new Mac Word will offer a host of new document-management options, including a system for storing files in specific locations according to their type, such as clip art, documents and users templates. Users will be able to merge multiple versions of documents; modified passages will be identified by special character styles, such as strike through and underlining.

Beefed-up mail merge functions will let users establish direct links to spreadsheets and databases. And in an effort to entice users of WordPerfect to move to Word, Version 6.0 will offer improved help and file-conversion features.

Pricing for the new versions and upgrade policies are not available. □

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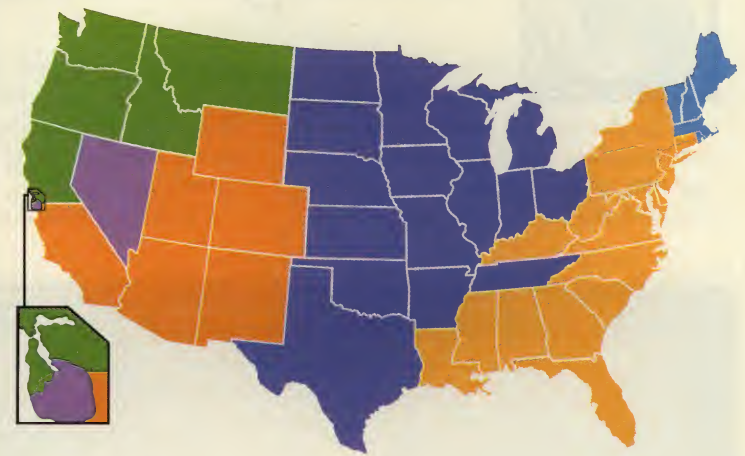
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## Looking ahead



Issue date	Special section* Product Watch*	Close for Display ads, MarketCenter, Career Opportunities	Close for Ad Showcase
July 12	<b>Gateways</b> Presentations	July 1	June 29
July 19	<b>Vertical Markets</b> Contact software	July 8	July 6
July 26	<b>Multimedia</b> Security	July 15	July 13
Aug 2	<b>Newton, Client/server computing</b> Networking, PowerBooks, Desktop publishing	July 22	July 20
Aug 9	<b>GA</b> Business productivity	July 29	July 27

\*For more information on these articles, call (415) 243-3581.





# Telling tall tales out of school

Once the lowly pager was the height of urban teen-age chic. Why, it was only last year that high-school teachers spent a good portion of their time confiscating them from their students. But now pagers are so common that

even adults legitimately employed in careers ranging from graphic artists to insurance salespeople clip pagers to their clothing with the studied casualness of those accustomed to too much technology.

If you're still trying to adjust to the concept

of technology as jewelry, you might have had a hard time keeping up with some of the presentations at the Mobile Computing Forum in Dallas. For example, in one presentation Apple referenced a Newton for young students called Draw and Spell. There's even a Newton white-

board code-named AppleChalk (no kidding) to share classroom scribbles. So in this scenario, asking the well-connected student to share that illicit communication with the entire class will be a thing of the past. Easier on the DEA, too.

## 800-slash

While Apple is busy showing us how it plans to keep our children well-connected, the Mac community itself can't seem to get off the Spindler speculation treadmill. Vision or no, the consensus seems to be that the man knows how to watch the pennies. He may have never seen a pink slip he didn't like, but sources tell the Knife that the core products for the next 18 months or so are likely to remain on track. Even some of the frills have yet to come under scrutiny. In this category we find the 800 number that Apple set up to help lure noncomputing types into the Newton fold. It's still connected and still promising that some new details about the product will be made available this week. The Knife was tempted to publish the phone number but restrained himself when he realized that a flood of incoming calls would generate a bloated phone bill that could push even more Apple talent to the local unemployment office.

Everyone who ever even knew anyone who ever met someone who once overheard a conversation in a Silicon Valley bar has been calling in with the skinny on how Sculley came to pass the CEO torch to Spindler. But until the Knife receives a personal dinner invitation from an actual board member, his lips are sealed.

## Toast imagery

The recent departure of John Moon as head of Apple's imaging-products group and his replacement by Don Strickland have led to some changes in Apple's strategy for the peripherals market. Under the new plan, any imaging product that consistently fails to sell in the 4,000-to-5,000-unit range each month is toast. If so, we will soon bid farewell to the Apple Color Printer, plus the codger-class Personal LaserWriter and the IIf and IIfg.

Hewlett-Packard, on the other hand, has a new LaserJet 4 cooking. The 600-dpi, 4-page-per-minute PostScript Level 2 printer will be available in both PCL-only and Mac versions. No SCSI, but it will support HP's new Jet-Direct M/I/O cards and LocalTalk. Shipments should begin no later than August.

## No embargo

You may have read elsewhere in this very column that the Knife has embargoed all tips about Sculley and the Apple board. And when the day comes when Michael H. Spindler hands the daily-operation duties over to his chosen successor, the Knife will afford him the same courtesy. In the meantime, the Knife is passing around the tale of Apple's Burt Cummings, marketing director for the PIE division. He recently stumbled over the family dog, Augie, and broke his leg quite seriously. Upon seeing Cummings with leg cast and hearing the story, Spindler's response is reported to have been, "So, did you shoot the dog?" □

*Beavis and his buddy may have enjoyed Schwarzenegger's latest, but you'll prefer a MacWEEK mug. Tips are accepted at (415) 243-3544, fax (415) 243-3650, Internet (mac\_the\_knife@macweek.ziff.com), AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.*



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1992 Year-end Report	62.5K	19.5K	69%	Compressed Faster	B0B0	CV33	None	Thu, Feb 25, 1993
1992 Year-end Report	43.5K	9.4K	78%	Compressed Faster	71A3	EP3F	None	Thu, Aug 27, 1992
Newsletter/Jan 93	100.2K	25.4K	75%	Compressed Smaller	ALD4	ALB4	None	Fri, Sep 11, 1992
Product Descriptions.ssa	254.7K	—	—	Archived	NCse	APPL	None	Thu, Feb 25, 1993
Q1'93 Objectives	6.9K	—	—	Don't Compress: Rem	HSVD	VOBN	None	Mon, Feb 1, 1993
Team Photo.TIF	235.3K	36.4K	84%	Compressed Faster	TBF	TFT	None	Fri, Jan 15, 1993
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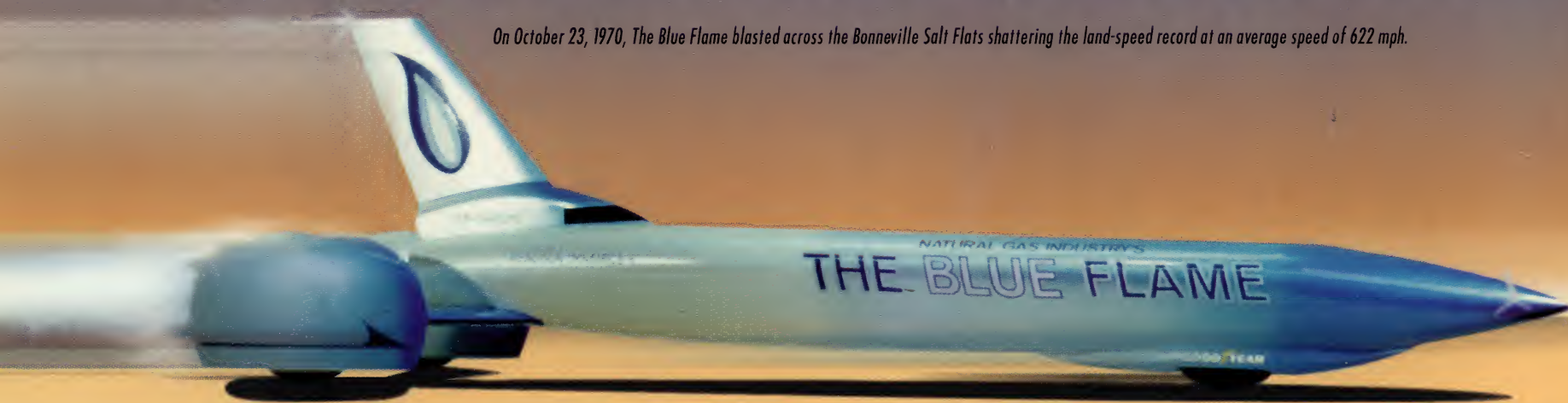


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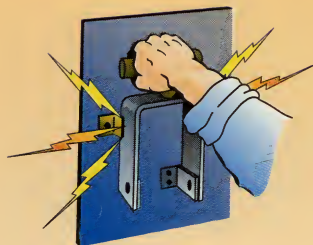


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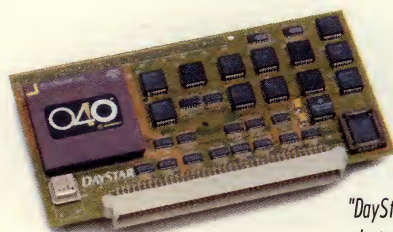
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\*Mac SE/30, II, IIx, IIcx, IIsi and IIci are now available. Mac IIvi, IIvx and Performa 600 have limited availability thru July, 1993.